

creating new residential environments

BIDDENHAM LOOP

REVISED DEVELOPMENT BRIEF

- 1250 new homes
- shops and schools
- part of western bypass
- park & ride and new bus link to Bedford
- riverside country park



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Biddenham Loop Revised Development Brief

This development brief is consistent with the adopted Bedfordshire Structure Plan 2011 and with the Bedford Borough Local Plan adopted 20th October 2002. It has been revised in the light of the comments received during the consultation exercise held in May and June 2002. The brief was adopted as supplementary planning guidance by the Borough Council on 29th January 2003.

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This document has been prepared by the Policy Team within the Planning Services Group
with the assistance of colleagues in other sections of the Borough Council.

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INVESTOR IN PEOPLE



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ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਚਿੱਠੀ ਜਾਂ ਲੀਫਲੈੱਟ ਸਮਝ ਨਹੀਂ ਆਉਂਦਾ ਅਤੇ ਇਸ ਬਾਰੇ ਤੁਹਾਨੂੰ ਹੋਰ ਜਾਣਕਾਰੀ ਦੀ ਲੋੜ ਹੈ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਇਨ੍ਹਾਂ ਨੂੰ ਨਾਲ ਲੈ ਕੇ ਟਾਊਨ ਹਾਲ ਆਉ ਜਾਂ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਰਾਹੀਂ ਸਾਨੂੰ ਮਿਲਣ ਦਾ ਸਮਾਂ ਤੈ ਕਰੋ। ਅਸੀਂ ਤੁਹਾਨੂੰ ਮਿਲਣ ਸਮੇਂ ਇਕ ਤਰਜਮਾਕਾਰ ਦਾ ਪ੍ਰਬੰਧ ਕਰਾਂਗੇ।

اگر آپ کو اس خط یا لیفلٹ کے سمجھنے میں مشکل پیش آئے یا آپ مزید معلومات حاصل کرنا چاہیں تو براہ مہربانی اس خط یا لیفلٹ کے ساتھ ٹاؤن ہال میں تشریف لائیں یا اپائنٹمنٹ حاصل کریں ہم ان معلومات کی وضاحت کیلئے مترجم کی خدمات حاصل کریں گے۔

এই চিঠি/প্রচারপত্র বুঝতে যদি অসুবিধা হয় এবং বিশদ তথ্য জানতে চান, তাহলে সেটা সঙ্গে নিয়ে টাউন হলে আসবেন অথবা একটি আপয়ন্টমেন্ট করার জন্য আমাদের সাথে যোগাযোগ করবেন। তখন আমরা একজন ইন্টারপ্ৰিটারের ব্যবস্থা করব। তিনি আপনার কাছে এই চিঠি/প্রচারপত্রের বিষয়বস্তু ব্যাখ্যা করবেন।

" જો તમને આ પત્ર કે પત્રિકા સમજવામાં તકલીફ પડતી હોય અને તમે વિશેષ માહિતી મેળવવા માગતા હોય તો મહેરબાની કરીને ટાઉન હોલમાં આ પત્ર કે પત્રિકા લઇને આવશો અથવા એક એપોઇન્ટમેન્ટ માટે અમારો સંપર્ક સાધશો. આ માહિતીના ભાષાંતર (ઇન્ટરપ્રીટેશન) માટે અમે વ્યવસ્થા કરશું."

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Contents

1 Purpose of the Development Brief	page 1	7 A Mixed and Balanced Community	page 23
Introduction	1	Residential development	23
The need for development	1	District centre	24
The status of the brief	1		
The structure of the brief	1	8 Open Space	page 27
Relationship to the West of Kempston Development Brief	2	Country Park	28
2 Policy Context	page 3	9 Routes and Movement	page 29
Bedfordshire Structure Plan 2011	3	Walking and cycling	29
Bedford Borough Local Plan	3	Public transport and Park & Ride car park	29
Additional Design Guidance	4	Bedford Western Bypass	30
		Highways	30
		Traffic Calming	31
		Travel Assessments	31
3 Site Appraisal	page 5	10 Energy	page 33
Location and existing land uses	5	Energy consumption	33
Landscape and topography	5	Efficient use of land	33
Ecology	5		
Archaeology	5		
Planning history	5		
4 Development Influences	page 7	11 Implementation	page 35
Flood plain	7	The Outline Planning Application	35
Drainage	7	Planning Obligations and conditions	35
Water	7	The Strategic Distributor Road	36
Electricity power lines	8	Phasing	36
Gas	8	Management	38
Minerals	8	The Adoption of Infrastructure	38
Archaeology	8		
Ecology and landscape	8	Appendices	page 41
Footpaths	8	1 Ecology	41
The Strategic Highway Network	9	2 Archaeology	43
Fire Safety Issues	9	3 Urban Design Objectives	45
Community safety	9	4 Local Plan Policies	51
5 Key Principles	page 11	Figures	
Principle 1	11	A Block Structure - Perimeter Blocks	17
Principle 2	11	B Open Space Network	18
Principle 3	11	C Connections	19
Principle 4	11	D Legibility Analysis	20
Principle 5	12	E District Centre	45
		F Urban Housing	47
		G Semi Formal Housing	48
		H Semi Rural Housing	49
6 Local Distinctiveness & Urban Design Principles	page 13	Maps	
Introduction to urban design principles	13	1 Constraints	
Local distinctiveness	13	2 Ecological Appraisal	
Key urban design principles	16	3 Sites of Ecological Interest	
Urban design framework	16	4 Illustrative Master Plan	
Urban design objectives	21	5 Housing Density	
Landscape Master Plan and Strategy	21		
Design guidance/Implementation	22		

1 Purpose of Development Brief

Introduction

1.1 Development of the Biddenham Loop offers an exciting opportunity to create a self-sufficient urban village in a landscaped setting. The surrounding green areas will provide more opportunities for enjoying the countryside. The total site area is approximately 314 hectares (780 acres) and is in several private ownerships. It is therefore important that the site is planned in a comprehensive manner. Part of the site has already been developed for housing, a golf course and open space.

1.2 The intention of this brief is to provide firm and clear guidance to prospective developers as to the type and form of development which the Borough Council would like to see on this site. The principles for the development are set out in this brief and are shown in the master plan, included as Map 4. When determining planning applications for the site the Borough Council as Local Planning Authority will want to ensure that proposed development complies with the principles laid down in the brief and master plan.

1.3 The Borough Council first adopted a development brief for the Biddenham Loop site on 11th July 1994 following extensive public consultation. Part of the area covered by that brief has been developed, however, changes to both national and local planning policy objectives have made it desirable to produce a revised brief. Updated information from the Environment Agency on flooding has affected the area of land that can be developed. Certain principles and elements in the original brief remain relevant and are supported by Government guidance. Where appropriate, these have been strengthened or repeated in this revised brief.

1.4 The Borough Council's Planning Committee approved a draft brief on 11th April 2002 for public consultation, which took place for six weeks between 5th May and 20th June 2002. Following consideration of the comments made and amendment where appropriate, the brief was formally adopted on 29th January 2003 and now supersedes the 1994 brief.

The Need for Development

1.5 The land at Biddenham Loop forms an important part of the Local Plan strategy for the provision of new

housing, together with supporting recreational and community facilities, and highway infrastructure to accommodate the development needs of the Borough in the period up to 2006 and beyond. It will assist in one of the key strategies of the Local Plan of directing new development to the western periphery of Bedford in association with the construction of the Bedford Western Bypass thus relieving Bedford town centre of through traffic. The proposed development is of strategic importance.

The Status of the Brief

1.6 When determining planning applications within the area covered by the development brief, the Borough Council as Local Planning Authority will require development proposals to fully comply with the principles laid down in the brief. This will ensure a consistent approach to the development of the site. The brief has been adopted by the Borough Council as supplementary planning guidance. The brief provides advice for prospective developers who will need to demonstrate that they meet the brief's objectives and accord with the supplementary design guidance for the site to be prepared as part of the outline planning application.

1.7 The site is in two main ownerships but the landowners have made a joint application with the landowners of land west of Kempston for outline planning permission. Thereafter, it is likely that the site will be divided into a number of plots for sale to individual house builders. This brief has therefore been prepared primarily to guide the determination of the outline application but recognises the need for it to be capable of being applied to separate applications at reserved matters stage.

The Structure of the Brief

1.8 The brief sets out details of relevant Structure and Local Plan policies in Section 2, gives an appraisal of the site in Section 3 and outlines development influences in Section 4. The key development principles are described in Section 5. Sections 6 - 10 address the key themes of local distinctiveness and urban design principles, achieving a mixed and balanced community,

open space, routes and movement, and energy. Finally a description of how implementation is to be achieved is given in Section 11.

1.9 In order to achieve the required standard of development, the brief's framework comprises the following elements:

- sustainability principles
- design principles
- urban design objectives for individual districts proposed for the site
- development requirements for the main land uses

- an illustrative master plan showing the land use, the main landscape and open space structure, key routes and junctions
- implementation guidance
- a land budget.

Relationship to the West of Kempston Development Brief

1.10 The development of this site and the land west of Kempston allocated under Policy H7 of the Local Plan are linked by the need to finance the provision of the Bedford Western Bypass. The two briefs have been prepared in parallel.

2 Policy Context

Bedfordshire Structure Plan 2011

2.1 The structure plan currently in force is the Bedfordshire Structure Plan 2011, which was adopted in March 1997 and gives strategic guidance to 2011. The Structure Plan conforms to the housing provision target for Bedfordshire set out in Regional Planning Guidance for the South-East (RPG9) issued in 1994. In relation to Bedford Borough, Policies 32 and 33 of the Structure Plan state that in the period 1991-2011, 8,900 dwellings should be provided in and adjoining the urban area. Revised regional guidance (RPG9) was issued in March 2001, and this will require the level of housing provision in the Structure Plan to be reviewed. This will not affect the need for development at this location, as the number of dwellings is unlikely to be a reduction from that already committed. The area covered by the development brief forms part of the west Bedford strategic housing location as identified in the Structure Plan key diagram and Policy 33. The deposit draft Bedfordshire and Luton Structure Plan 2016, published in November 2002, also identifies the area west of Bedford as a strategic location for housing.

Bedford Borough Local Plan

2.2 The previous adopted local plan was prepared for the period to 1996. Policy H1 identified part of the Biddenham Loop site for 250 dwellings including a golf course. Paragraph 5.8 of the previous Local Plan acknowledged that this allocation formed part of a much larger development. Consequently, the 1994 development brief for Biddenham Loop anticipated a development of 1,700 new homes.

2.3 The current Local Plan was adopted on 20th October 2002. The Plan has been prepared in accordance with the Structure Plan 2011 and allocates 1450 dwellings to Biddenham Loop, taking account of the development that has already occurred. Policy H6 of the Plan sets out a number of key principles for the site, as follows:

- *the completion of the distributor link southwards across the River Great Ouse to the A421 prior to the occupation of the 701st dwelling sanctioned by this policy (this being the maximum number of dwellings, additional to that already permitted, which the Highways Agency will allow to access*

the A428 before the link opens). A planning obligation will be required:

- *to secure the funding and phasing of the provision of the link*
- *to ensure that the link will in fact be provided;*
- *sufficient land should be reserved to enable this road to be built and fully upgraded to dual carriageway to the satisfaction of and dedicated to the highway authority on the issue of the first planning permission;*
- *the provision of a park and ride facility and quality public transport services via Queen's Park to Bedford Midland Station and the town centre, and such other works to the satisfaction of the highway authority within twelve months of the occupation of the first house sanctioned by this policy; and*
- *the provision of facilities including the country park, golf course, open space, playing fields, changing rooms, car parking, footpaths/cycle routes, landscaping, district centre, social housing, lower school, Hillgrounds bridge and sports/community facilities.*

2.4 The Local Plan also refers to the need for the development to contribute towards the provision of the Bedford Western Bypass. Paragraphs 5.22 and 5.23 state:

'Major development west of Bedford has been associated in successive Structure Plans with the route of the proposed Western Bypass. Initially, the road was seen as marking the future edge of the urban area and necessary to provide additional road network capacity that would facilitate development. More recently the roles have to a degree been reversed and development is now expected to contribute to the costs of the road and bring forward the earlier construction of the Bypass. This principle is now well established by the adopted Biddenham Loop Development Brief (the 1994 brief).

The strategic allocation west of Bedford is thus associated with the creation of a distributor link road in the form of a single carriageway highway between the A428 and the A421 that would subsequently be dualled to become the Western Bypass. The

development of the Biddenham Loop and land west of Kempston are regarded as enabling development for this section of the link. (See also Policy E7 concerning land at Marsh Leys Farm.) This relationship arises due to the inadequacy of the existing highway network to accommodate the additional traffic that development would generate. Development at Biddenham Loop is already underway and the first two kilometres of the link road have been constructed.'

2.5 In relation to the Local Plan relevant policies are listed in Appendix 4.

2.6 During preparation of the Local Plan the Government issued revised planning policy guidance on housing (PPG3) in March 2000. The PPG urges local planning authorities to provide wider housing opportunity and choice and a better mix in the size, type, and location of housing than is currently available and seek to create mixed communities. Housing development should make more efficient use of land by seeking higher densities, particularly at places with good public transport accessibility. It should place the needs of people before ease of traffic movement and seek to reduce car dependence by facilitating more walking and cycling, by improving linkages of public transport between housing, jobs, local services and local amenity, and by planning for mixed use. Good design is promoted in order to create attractive, high-quality living environments. The PPG introduces a sequential approach to housing allocation, the presumption being that previously developed sites should be developed before greenfield sites. However, it recognises that planned extensions to existing urban areas are likely to prove the next most sustainable option. It states that proposals to develop greenfield sites larger than five hectares for housing (or proposals for more than 150 dwellings) will have to be notified to the Secretary of State before permission can be granted. In his report on objections to the Deposit Draft Local Plan, published in May 2001, the Local Plan Inspector considered the housing allocations to be compliant with PPG3.

2.7 This brief incorporates revisions to take account of the requirements of PPG3. In particular, increased emphasis is placed on making efficient use of land, ensuring that a range of housing will be available within the development, that mixed uses are encouraged, and that design matters are given prominence. The importance of pedestrian and cycle

routes within and through the development is emphasised and public transport links to the existing urban area are incorporated, including a park and ride facility. The site is a planned extension to the Bedford urban area and is one of a number of sites identified sequentially in the Local Plan - within the urban area, adjoining the urban area and in the strategic corridor, and lastly in the rural area.

Additional Design Guidance

2.8 Since the 1994 development brief, the Council has published supplementary planning guidance on a variety of design matters relevant to this site. Of particular note are the following:

- Achieving Quality in Residential Layouts
- Parking Standards
- Traffic Calming - Streets for People
- Landscape Design Guide
- Water Conservation and Waste Management
- Mobility Housing

This brief is written having regard to this guidance. Potential developers are advised to refer to the full documents, however, which are available from the Borough Council. Developers will also be expected to take account of:

- Cycleway Design and Maintenance Guide (Bedfordshire County Council June 1996)
- Schools Travel Strategies and Plans (a DETR guide).

Other relevant guidance includes:

- By Design - Urban Design in the Planning System: Towards Better Practice (DTLR)
- By Design - Better Places to Live (DTLR companion guide to PPG3)
- By Design - The Urban Design Compendium (English Partnerships and the Housing Corporation, DETR)
- Places, Streets and Movement (DETR companion guide to Design Bulletin 32)

It should be noted that the County Council is preparing revised highways design guidance (including revised parking standards) and this will also be of relevance.

3 Site Appraisal

Location and Existing Land Uses

3.1 The site lies to the west of Bedford and the area of land to which the brief relates is shown on Map 1. It includes land to the north, west and south of Biddenham village, the majority of which is enclosed by the River Great Ouse. Kempston lies to the south of the site and Queen's Park to the east.

3.2 The northern and western parts of the site are occupied by the housing, golf course, distributor road and open space developed since the original brief was published. The site was previously used for agriculture, and the remaining undeveloped areas continue in this use. The lower lying river meadows are used for grazing.

Landscape and Topography

3.3 The site lies on a relatively flat plateau contained by a loop in the River Great Ouse. Underlain by sand and gravel deposits, the bulk of the site is well drained but at the southern end is a belt of lower land with a higher water table. The land rises gently upwards in all directions from the course of the river. The northern and western parts of the site are occupied by the housing and golf course developed since the original brief was published. Views of the remaining parts of the site are of a prairie-like landscape with little existing vegetation to punctuate the scene. The river corridor is an important visual feature enclosing the site.

3.4 Because of the expanse of the Biddenham Loop, the whole site cannot be seen from any one point immediately adjoining it, although the site is visible from the higher ground of north-west Bedford two miles away. From adjoining land to the north, south and east, views to the Biddenham Loop are generally restricted by existing housing and vegetation. To the east and south, views can be gained to parts of the site from footpaths associated with the River Great Ouse. In winter, the most extensive views can be gained from points along Box End Road to the west and from Hillgrounds Road to the south-east. The most prominent features visible are the recently completed housing and golf course development. This stands out in the landscape, accentuated by the openness of the

surrounding land. Consequently, extensive planting will be required both within and on the fringe of the new development area to reduce its impact.

Ecology

3.5 The bulk of the plateau area is open with several severely cut hedges surviving but few individual trees. In contrast, the river corridor provides a complex and diverse system of habitats. These support a wide range of plants, including water-living species such as willow and alder, which are of particular value to birds and invertebrates. There are also mature trees and hedgerows along the boundaries of the paddocks and gardens to the rear of properties in Biddenham village.

3.6 A comprehensive ecological assessment of land in the Biddenham Loop was carried out for the 1994 brief and is set out in Appendix 1. This is still relevant despite the housing development that has already taken place, as this has been on former arable land of little ecological importance. Account should be taken of protected species in the Environmental Statement to be submitted with any planning application.

Archaeology

3.7 The Biddenham Loop is of considerable archaeological interest with scattered finds of artifacts and evidence of structures representing all the chronological periods.

3.8 The first stages of work on an archaeological assessment of the Biddenham Loop were completed in 1991. A summary of the methods, findings and recommended archaeological strategy are contained in Appendix 2.

Planning History

3.9 There have been several planning applications for development of the Biddenham Loop area, including those for phase one of the development, which has

already been implemented. Relevant planning permissions are listed below:

92/00580/OUT

18 hole golf course (including club house and ancillary facilities), associated car park, 100 detached houses, country park and associated access roads - approved 17/7/95 subject to legal agreement. This application has been renewed (see below) and the legal agreement updated and amended.

95/00391/OUT

Residential development, park and ride facility, country park (part), district centre (part), infrastructure and landscaping - outline - approved 17/7/95 subject to legal agreement. This application has been renewed (see below) and the legal agreement updated and amended.

97/01360/REM

Erection of community centre - approved 26/4/00. This application has not been implemented.

99/00417/S73

18 hole golf course (including club house and ancillary facilities), associated car park, 100 detached houses, country park and associated access roads - approved 26/4/00 subject to legal agreement (renewal of 92/00580/OUT). This application is in the process of being implemented. Details of outstanding elements are given in Section 11 of this brief.

99/00418/S73

Residential development, park and ride facility, country park (part), district centre (part), infrastructure and landscaping - outline - approved 26/4/00 subject to legal agreement (renewal of 95/00391/OUT). This application is in the process of being implemented. Details of outstanding elements are given in Section 11 of this brief.

99/00454/CCO

Construction of Bedford Western Bypass (consultation from Bedfordshire County Council) - approved by the County Council 18/10/00. This application has not been implemented.

00/01495/REM

Construction of 500 space car park associated with park and ride scheme together with access and drainage - current application.

00/01966/REM

Erection of retail unit, medical centre and temporary community centre and associated infrastructure and landscaping - refused 19/3/01, appeal dismissed 20/2/02.

02/0787/OUT

Comprehensive development including housing, employment, schools, shops, community facilities, open space provision, roads and all ancillary works - current application (also covers the Land West of Kempston Brief area).

4 Development Influences

4.1 Notwithstanding the policy requirements, the development will need to take into account a number of constraints which are considered under the following headings:

Flood Plain

4.2 The land at the Biddenham Loop is constrained on three sides by the River Great Ouse. The Environment Agency has identified an indicative floodplain for the river, showing the extent of the highest recorded flood, or the estimated extent of a flood with a 1% annual probability of occurrence, whichever is the higher. It does not take account of flood defences and takes a conservative approach where detailed information is not readily available. Further information can be obtained from the Environment Agency. Government advice contained in Planning Policy Guidance Note 25: Development and Flood Risk is that such areas, if they are currently undeveloped, are generally unsuitable for residential uses. This area is different from the area advised for the previously published brief, thus affecting the developable area. The indicative floodplain is indicated on Map 1. It will be a necessary part of the development control process for the developer to undertake a Strategic Flood Risk Assessment in accordance with PPG25 in order to determine the exact flood risk area and hence the developable area. Extension of the distributor road and the river crossing has been designed to incorporate flood arches of adequate size to pass major floods. Works already undertaken to maintain flood capacity in connection with the first phase of the distributor road should be retained. No buildings must be placed in the floodplain unless compensatory excavations are carried out. Although recreational use of floodplain is supported, there must be no ground raising, including for footpaths/cycle ways and no kickboards/fencing associated with any sports pitches. There must be no loss of flood storage within the designated floodplain.

Drainage

4.3 The Environment Agency is satisfied that the surface water run-off from development in the Biddenham Loop can be discharged to the River Great Ouse following on-site attenuation agreed by the

Environment Agency. The Bedford South Orbital trunk foul sewer follows a route approximately parallel to the River Great Ouse through the western part of the site. This is intended to serve development on the western side of Bedford and will have sufficient spare capacity to accommodate flows from the site. Developers should note that Anglian Water will not accept any obligation in perpetuity for any easements connected with the discharge of any surface water sewer offered for adoption, nor will it accept responsibility for any on-site surface water flood storage ponds or lakes. The developers will need to provide for the maintenance of balancing ponds.

4.4 In line with Government guidance contained in PPG25, the Council is keen to promote sustainable drainage systems that slow the rate of run-off from new development by incorporating features such as filter drains or permeable paving, vegetated landscape features or swales, infiltration devices, water butts, rainwater recycling systems, basins or ponds, etc. A surface water management plan should be submitted with the outline planning application.

4.5 Measures will be required to prevent pollution of the River Great Ouse during and after construction work on the development.

Water

4.6 Substantial water mains reinforcement work and/or suitably sized extensions will be required to serve the proposed development. A detailed survey of the location and surrounding area will also be required to establish a cost effective strategy to supply the development. This work is to be carried out at the developers' expense and early liaison with Anglian Water is advised. It should be noted that water mains should be provided of adequate capacity to supply fire hydrants with sufficient water for firefighting purposes in addition to the expected residential and commercial needs. The minimum size of mains that will accommodate the fixing of a hydrant is 90mm and the number and location of hydrants will depend on a number of considerations including: the prevailing risk, the distance between hydrants, the number and location of any existing hydrants, the size of the main and the pressure and flow rates to meet the current British Standard. The advice of the Bedfordshire & Luton Fire and Rescue Service should be sought.

Electricity Power Lines

4.7 A 132 kv electricity overhead power line crosses the site as shown on Map 1. In the interests of safety and amenity, a buffer zone has been incorporated into that part of the existing development that is crossed by the power line.

Gas

4.8 Gas is currently supplied by Connect to that part of the Biddenham Loop area that has already been developed, from the medium pressure main in Old Ford End Road. Connections can be made to serve the remainder of the development.

Minerals

4.9 The development site is thought to be underlain by sand and gravel. The extraction of any such materials within the area of the brief is a matter for the Mineral Planning Authority and other agencies, including the Environment Agency. However, workings should only extend to that required to satisfy the needs of the development and associated infrastructure works. Any minerals planning permissions granted will take due account of the presence of archaeological remains.

Archaeology

4.10 Current knowledge indicates that the whole area is archaeologically sensitive with the potentially most important sites, so far identified, being located to the south and east, towards the river. Detailed evaluation has been carried out of those areas already developed and of the route of the distributor road extension. Further work will be necessary in the remainder of the development brief area (including land identified for the country park) to a specification to be agreed with the County Archaeological Officer, to provide more information about the remains and to evaluate them. However, it is clear that archaeological interest may act as a constraint to the development of parts of the site.

4.11 In line with PPG16: Archaeology and Planning, and Local Plan policies BE24 and BE25, an archaeological field evaluation will be required in order to define the character and extent of archaeological

remains prior to a planning application being submitted. The Council expects this to be undertaken on behalf of the developer by professionally qualified field archaeologists. Where the Borough Council decides that the physical preservation of archaeological remains is not justified and that development should proceed, proposals should minimise the effect of a proposal on archaeological remains and ensure satisfactory provision for the excavation and recording of the remains. In the absence of an adequate evaluation planning permission will be refused. Further details regarding archaeology can be obtained from the County Archaeological Officer, County Hall, Bedford.

Ecology and Landscape

4.12 The river valley at Biddenham is part of the Great Ouse corridor. It is both an attractive landscape feature and an important area for wildlife. These attributes, together with its drainage and flood protection functions, have led to the area's designation within the River Protection Area of Policy NE15 of the Local Plan. This means that as part of any development proposals, the river corridor must be retained and provision made for its appropriate management to maintain and enhance its character. Tree planting and other landscaping should be provided, subject to the advice of the Environment Agency.

4.13 Given the sparse distribution of landscape features on the remaining undeveloped part of the Biddenham Loop, it is imperative that existing features, in particular trees and hedgerows, are retained and incorporated into the design of the new development.

4.14 Appendix 1 contains an assessment of the ecological value of the site along with a set of recommendations for the retention and enhancement of areas of ecological interest. Wildlife conservation mitigation measures should take account of the Bedfordshire and Luton Biodiversity Action Plan.

Footpaths

4.15 Several public footpaths cross the site and these are shown on Map 1. These will need to be accommodated within the development or alternatively arrangements made for their statutory diversion.

The Strategic Highway Network

4.16 The developer will be expected to contribute towards the implementation of the strategic link road from the A421 to A428 in accordance with the approved planning application. No more than 701 dwellings should be occupied prior to the completion of the link road.

Fire Safety Issues

4.17 Developers should consider the opportunities for and benefits of introducing fire sprinkler systems in new buildings including those which are currently beyond regulatory requirements. They are also advised to seek the advice of the Arson Reduction Coordinator and Fire Safety Projects Officer of the Bedfordshire and Luton Fire and Rescue Service in relation to design measures to prevent fire related crime and disorder.

Community Safety

4.18 To reduce crime and increase community safety requires an overall approach to ensure sufficient provision is made for social inclusion. The design and layout of the external environment can also play an important part in reducing opportunities for crime (including fire related crime and disorder), the fear of crime and the potential for anti-social behaviour. The following general principles can be identified.

- *Integrated approach* - the development's overall design and layout should be considered as a whole from the outset.
- *Legibility and identity* - take account of existing and proposed features and facilities to ensure that pedestrian routes have a clear reason and will attract a purposeful usage. Unnecessary

paths which could be used to gain unobtrusive access and escape should be avoided.

- *Environmental quality and sense of ownership* - a high quality environment is more likely to engender pride in its users, who will tend to feel comfortable and safe and have a sense of shared ownership and responsibility. Public areas will tend to be well used, which is itself a safety element. However, care needs to be taken to avoid inadvertently creating opportunities for crime through providing hiding places or by poor positioning and choice of planting, walls and fences.
- *Layout and building details* - key factors include: natural surveillance; the creation of defensible space; the use of physical boundaries; and the strength of materials used in construction.
- *Maintenance of public areas* - it is important that ownership and responsibilities are clearly identified and sufficient resources made available to adequately maintain buildings and communal spaces. High standards of maintenance will encourage active use and engender a sense of pride.
- *Public lighting* - there is a strong link between the standard of lighting and fear of crime. Different sources and patterns of lighting need to be considered for different environments and deep shadows should be avoided. Lighting is particularly important in the street environment, public footpaths and cycleways and in car parks.
- *CCTV* - closed circuit television surveillance may be an appropriate measure in certain situations, although it can be perceived as intrusive and a restriction on privacy and personal freedom.

4.19 Developers will be expected to take account of these principles in the detailed design and layout of the development.

5 Key Principles

5.1 As previously noted, part of the site has already been developed under the provisions of the original development brief. This has resulted in the development of a golf course, two areas of housing - one at low density, and an area of landscaped open space alongside the distributor road and river. Planning permission has also been given for the remainder of the distributor road (including a river bridge), a park and ride site and part of the district centre, although development of these has not been commenced. However, both national and local planning policy objectives have changed since that development brief was prepared. This brief therefore aims to set out more clearly the Council's objectives, to ensure the provision to a high standard of the outstanding facilities envisaged in the previous brief and the remaining housing.

5.2 In accordance with current Government advice, the Council wishes to promote the creation of more sustainable residential environments. In order to achieve this, all development proposals will be required to follow a number of key sustainable development principles as set out below.

5.3 PRINCIPLE 1

Achieve a locally distinctive, high quality development, which respects the separate character of surrounding settlements.

Aim 1 The development should create a locally distinctive community of good quality design.

Aim 2 The development should respect the existing settlement pattern and incorporate appropriate measures to prevent coalescence.

Aim 3 The development should establish a landscape character which achieves a transition from the rural area and gives identity to the new urban edge.

Aim 4 The development should be designed to enhance community safety.

5.4 PRINCIPLE 2

Encourage the creation of a mixed and balanced community.

Aim 1 The development should incorporate a range of different housing opportunities in terms of tenure, size and affordability.

Aim 2 The development should provide social and community facilities and employment alongside housing in order to ensure that a balanced community is created. (To include outstanding community facilities envisaged in the previous brief.)

5.5 PRINCIPLE 3

Provide an open space network for recreation, wildlife, energy and water management.

Aim 1 The development should provide a network of open spaces linked by footpaths and cycle routes.

Aim 2 The development should make provision for a country park.

5.6 PRINCIPLE 4

Structure development around energy efficient movement networks.

Aim 1 The development should incorporate a network of direct, safe and convenient footpaths and cycle routes.

Aim 2 The development should incorporate an effective and efficient public transport system, including a park and ride car park.

Aim 3 The development should deliver the construction of the Bedford Western Bypass.

Aim 4 The development should make appropriate provision for private motor vehicles, but giving priority to pedestrians, cyclists and buses.

Aim 5 The development should incorporate measures to minimise the environmental impact of traffic.

5.7 PRINCIPLE 5

Promote energy efficiency.

Aim 1 The development should minimise energy consumption.

Aim 2 The development should use land efficiently and incorporate appropriate density levels.

Aim 3 The development should maximise renewable energy provision.

6 Local Distinctiveness and Urban Design Principles

Introduction to Urban Design Principles

6.1 The development will reflect the distinctive characteristics of the immediate settlement pattern of Biddenham and the wider surroundings of the Bedford area, whilst providing a distinctive and legible environment of its own. Strong links to existing settlements and the new development at Land West of Kempston are important to ensure a sustainable environment. The development will be focused around a mixed use district centre, incorporating educational, community and commercial facilities.

6.2 It is expected that the development will consist of a number of distinct character areas which will respond sympathetically to the subtle changes in the surrounding environment. On the northern edge facing the golf course, a semi-formal approach is likely to be the most appropriate solution. This provides an opportunity for the new housing to address the more managed landscape of the golf course and creates a strong edge to the development. The south eastern and western edges will require a softer, semi-rural solution that addresses the flood plain and proposed country park. Extensive planting will be necessary to provide partial views of the new housing and to ensure that these edges are not prominent in the landscape. It is important that the predominantly rural feel of the surroundings are carried through into the heart of the development. The master plan proposes to utilise existing footpaths, balancing ponds and play space to drive green wedges into the site, helping to assimilate the new development into the surrounding landscape.

Local Distinctiveness

6.3 In order to identify those elements which would make the new development locally distinctive, there is a need to consider the context in which the development sits.

6.4 The Biddenham Loop has a distinctive character born out of the gently sloping landscape that falls to the River Great Ouse surrounding the site to the east, south and west. Intensively farmed in the recent past, natural features such as hedges and trees are sparse and restricted to the River Great Ouse and flood plain edges.

6.5 The most significant features in the landscape are:

- The new development associated with the golf course, typified by large, detached houses. These have their own discrete character but have few reference points to the local vernacular.
- The new housing development to the south of the golf course.
- Overhead power lines crossing the site from south-west to north-east in the corridor between the proposed development area and Biddenham village.
- The valley of the River Great Ouse which defines the site.

Urban Character

6.6 The Biddenham Loop site has little in the way of immediate urban character reference points. The site does touch a slender finger of the Queen's Park built form. However, the architecture and urban form of this area is undistinguished and would not be appropriate to use as a 'cue' for new development.

6.7 PPG3 requires design and layout considerations to be informed by the 'wider context, having regard not just to any immediate neighbouring buildings but the townscape and landscape of the wider locality'. Two types of urban references are appropriate in this case.

6.8 The district centre will comprise a central public space surrounded by mixed use development including key civic and community buildings. A rich and varied townscape will be created through a complex pattern of spaces which will generate a strong sense of place. In this case, reference to the central spaces of Bedford town centre is appropriate. Analysis of this area identifies a number of design approaches or 'cues' which can be incorporated into the scheme. These are described below.

6.9 Use 2, 2½ and 3 storey buildings to provide variety in the streetscene and an urban sense of scale. Buildings should form a continuous built frontage in order to create a strong sense of enclosure and definition to the public spaces eg. Harpur Square. Building entrances should generally be directly onto the

square with little or no front boundary treatment. There should be a mix of uses within the street and within individual buildings. Typically, there should be residential above business premises. Indicative densities within this area will be about 45 dwellings per hectare.

6.10 An integral part of the development will be the primary access roads leading into the district centre from the west, south and east. Appropriate urban references include Kempston High Street and key characteristics are as follows:

- 1½, 2 and 2½ storey dwellings with irregular building lines
- short stretches of continuous frontage
- occasional terraces at right angles to the road and buildings set back create external spaces



Character -

Terrace runs at right angles to the street creating interesting external spaces

- a mixture of dwellings with small front gardens and those on the back of the footway
- gables projecting to back edge of footway



Character -

Curved road line creates a series of changing vistas

Landmark and taller building create interest

An interesting roof line and building silhouette along the street

A variety of building shapes including projecting gables

Roofs are generally steep pitched

- variety of building forms
- wide frontages
- prominent landmark buildings within the streetscene
- a mixture of boundary treatments including stone and brick walls and hedging.



Continuity and Enclosure -

A continuous built frontage with one building set back providing visual interest

Wider frontages are prevalent

Buildings create a strong sense of enclosure

Semi-Rural Character

6.11 Biddenham village to the north of the site is the most immediate example of an established semi-rural settlement. Reference to the part of the village around Main Road shows a number of 'cues' which would be appropriate on the western and south eastern fringes of the development including the green wedges. Here informal, low density (about 30 dwellings per hectare) and landscape-dominated development will help assimilate the development into the surroundings.



Rural Character -

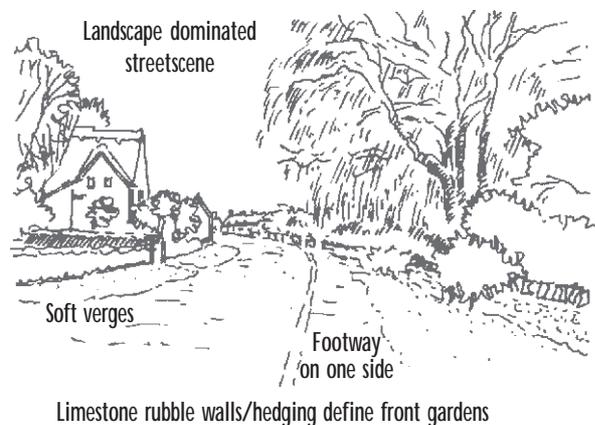
Groups of buildings are set back from the road creating irregular greens

Variety of building relationships to the road

1, 1½ and 2 storey dwellings

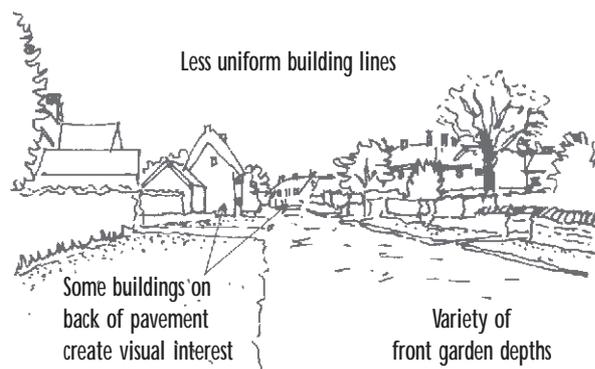
6.12 Buildings are generally 1, 1½ and 2 storeys in height. Spacing between buildings is more generous with considerable variety of front garden depths. Building lines are therefore much less uniform. Large detached houses and small groups of terraces coexist. In certain cases, buildings are located on the back of the pavement with no front gardens. Others may be set well back into the plot. Whilst the majority of the dwellings front onto the street, occasionally dwellings are turned through ninety degrees thus presenting a gable end to the street.

6.13 The sense of enclosure is less than in the urban area and the streetscene is dominated by the landscaping within the front gardens rather than the buildings. It is therefore a landscape-dominated environment.



6.14 Front gardens and boundaries are defined by limestone walls, hedging or by the use of low limestone walls with hedging behind. Picket fencing and wooden gates are also used. Buildings are a mixture of brick and tile, lime-washed render and thatch and limestone and tile/slate.

6.15 Main roads contain wide landscape margins with soft verges often with a footway on one side only. Drives and footways are generally in loose or rolled gravel. Parking is primarily on-plot with visitors parking on-street.

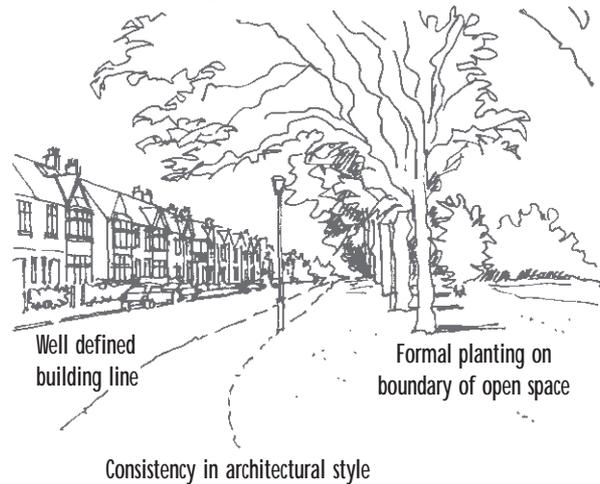


Semi-Formal Character

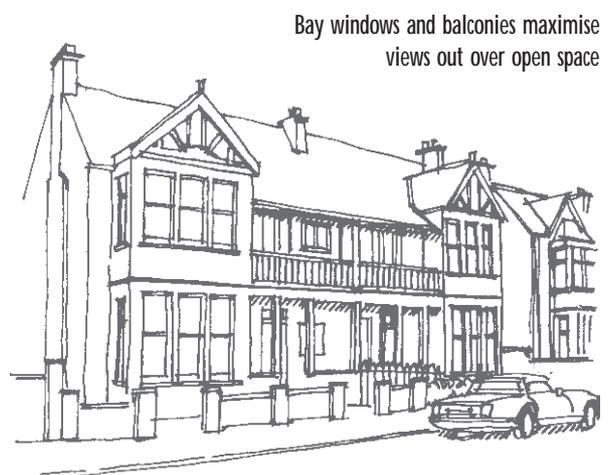
6.16 The main characteristics of this type of development are as follows:

- semi-detached and detached buildings
- 2 - 2½ storeys high
- a well defined building line

Buildings provide strong edge



- consistency in building type, materials and architectural style
- modest front gardens enclosed by walls /hedging
- more formal planting on the boundary of the open space
- access from the front of the buildings
- almost continuous frontage creates a strong edge to the space
- buildings with balconies and bay windows to maximize views out over open space.



Key Urban Design Principles

6.17 In May 2000, the Department of the Environment, Transport and the Regions and the Commission for Architecture & The Built Environment published 'By Design: Urban Design in the Planning System: Towards Better Practice'. The aim of the guide is to promote higher standards of urban design and it provides a companion to the Government's policy for design as set out in Planning Policy Guidance Note 1 and other Planning Policy Guidance Notes.

6.18 It concludes that successful streets, spaces, villages, towns and cities tend to have common characteristics. These factors have been analysed and distilled into a series of principles or objectives for good urban design. They are:

Character

A place that has its own identity and a character that is locally distinctive in terms of both townscape and landscape.

Continuity and Enclosure

A place that has public and private spaces which are clearly defined by development and which promotes the continuity of street frontages.

Quality of the Public Realm

A place with attractive and successful public spaces and routes which are safe, attractive and accessible by all members of society including disabled and elderly people.

Ease of Movement

A place that is easy to get to and move through, which promotes accessibility and permeability, connects with its surroundings, puts people before traffic and integrates land uses and transport.

Legibility

A place that has a clear image and is easy to understand by incorporating recognisable routes, junctions and landmarks.

Adaptability

A place that can change easily in response to changing social, technological and economic conditions.

Diversity

A place with variety and choice through a mix of different land uses.

Urban Design Framework

6.19 This section sets down the Council's vision of how the key urban design principles should be applied to the site.

Character

6.20 The new development must respect the local distinctiveness of its context (as defined in Section 3) and create a series of areas which are in themselves distinctive. This will help to assimilate a development of this scale into the surrounding landscape and urban areas. It will also help create a development that is highly legible and easily understood.

Continuity and Enclosure

6.21 The relationship between buildings and public spaces is crucial if a successful space is to be created. New development should be laid out so that there is a clear distinction between public and private space with the public domain being both overlooked and accessible. This is most successfully achieved by dividing the site into a series of perimeter blocks. These blocks should respond to the surrounding environment. Given the site's rural location typified by irregular urban forms, an informal block structure is likely to be the most appropriate (see Figure A). Along major paths, continuity and enclosure can be maintained by consistent treatment of the urban form. Towards the periphery, structural landscaping elements can be used to achieve the same effect. This block pattern creates opportunities for natural surveillance at all times of day and this assists community safety. There is no reason why every element of the grid must be a through route.

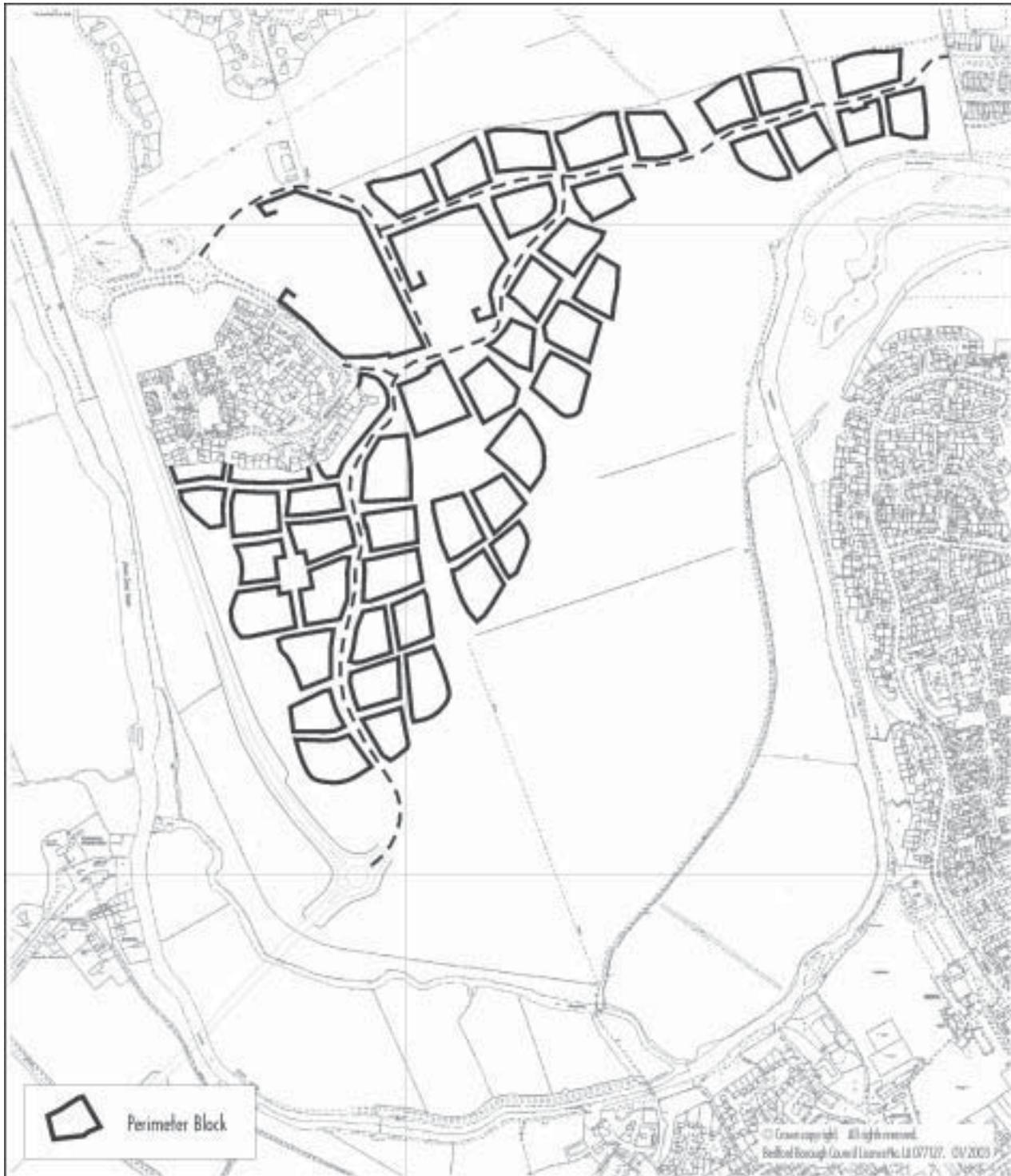
Quality of the Public Realm

6.22 The nature and quality of the public realm will play a crucial part in shaping the development. On the periphery of the development site, particularly to the north and south where it meets the golf course and the country park, it is anticipated that the public realm will be landscape dominant. Where primary access roads run through the site from the Western Bypass and Queen's Park area of Bedford, urban public realm qualities will be more appropriate. These paths will incorporate a sequence of public squares culminating in the main square within the district centre. This provides an opportunity to create high quality space. It is anticipated that it will serve a dual purpose, accommodating parking associated with the surrounding mixed use elements, a

meeting point for the local community, and supporting a range of different activities.

6.23 Figure B indicates the main open space network and shows the connections between the more urban spaces of the centre and the main routes and the more landscaped dominated spaces of the country park and the green wedges.

Fig A Block Structure - Perimeter Blocks



Ease of Movement

6.24 This principle has three distinct elements – connections, permeability and the integration of land use and transport

6.25 Firstly, it is important that the proposed development provides good connections to the golf course housing area and Biddenham village to the

north, the Queen's Park area of west Bedford, the proposed park and ride site, the existing housing and the Land West of Kempston site. Whilst these are all important, a high quality link between the site and the Land West of Kempston development is crucial to ensure children travelling to the middle school have a viable and sustainable means of travel other than by car. The east-west link between the park and ride site and Queen's Park also needs to be direct and legible to encourage the use of public transport.

6.26 Secondly, the layout of the site should incorporate an appropriate amount of permeability and choice of routes. Routes should be clear and direct, be overlooked and busy and should not undermine the defensible space of particular neighbourhoods.

6.27 Thirdly, it is important that the different uses on the site are easily accessible on foot, by cycle and by

Fig B Open Space Network



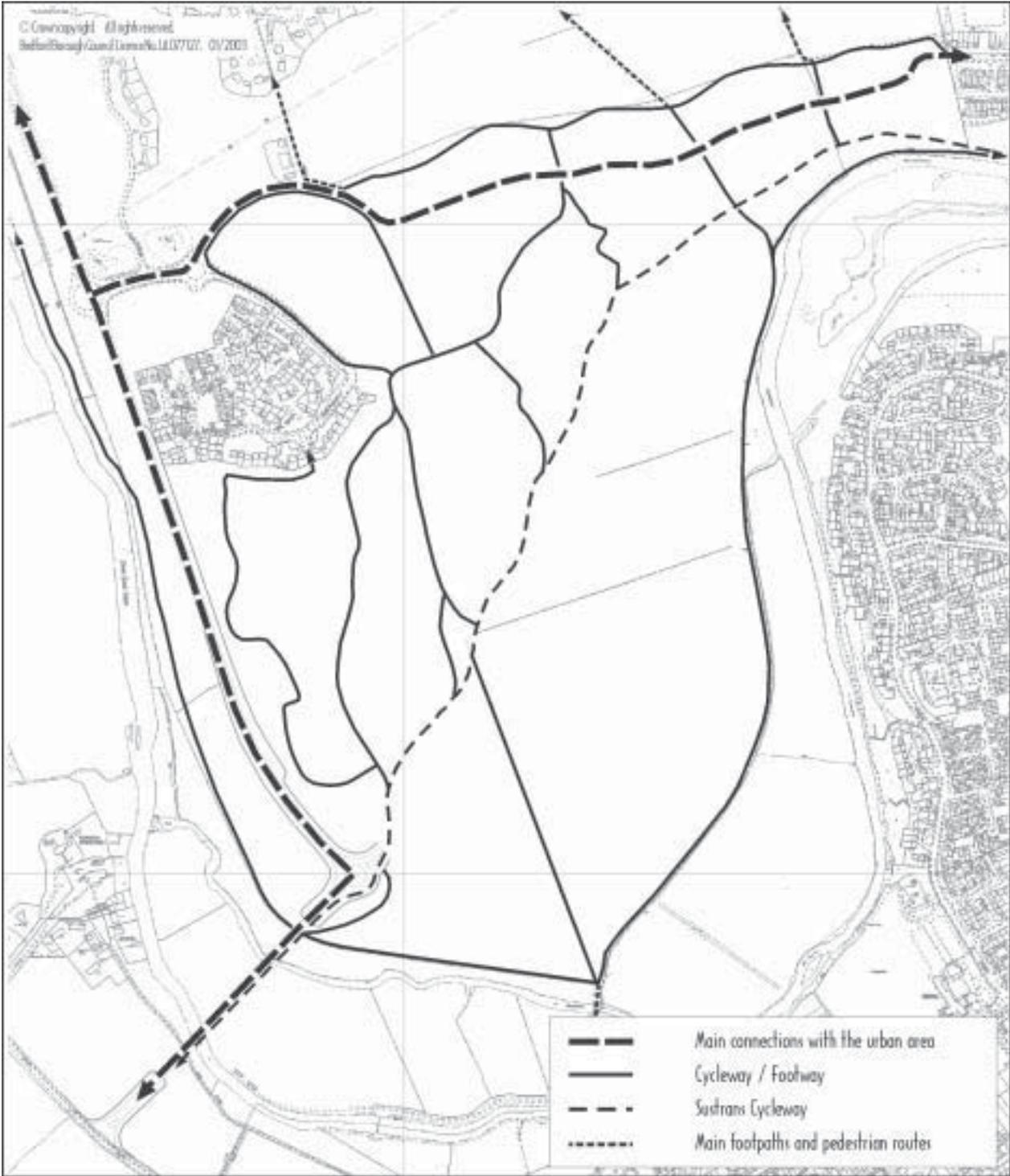
public transport. It is also important that links are created with other facilities such as schools and community buildings in the locality as well as with the country park beyond. Figure C shows the main points of connection and the footpath/cycle network.

Legibility

6.28 Legibility relates to how well a development is structured so as to help people find their way around.

New development is often criticised for offering little to remember when moving through it. This results in a lack of orientation and a poor 'mental image'. Research has shown that five types of physical features play a key role in establishing a strong mental image of a place. These are paths, nodes, landmarks, edges and districts. Figure D shows a legibility analysis of the development using all of these elements.

Fig C Connections



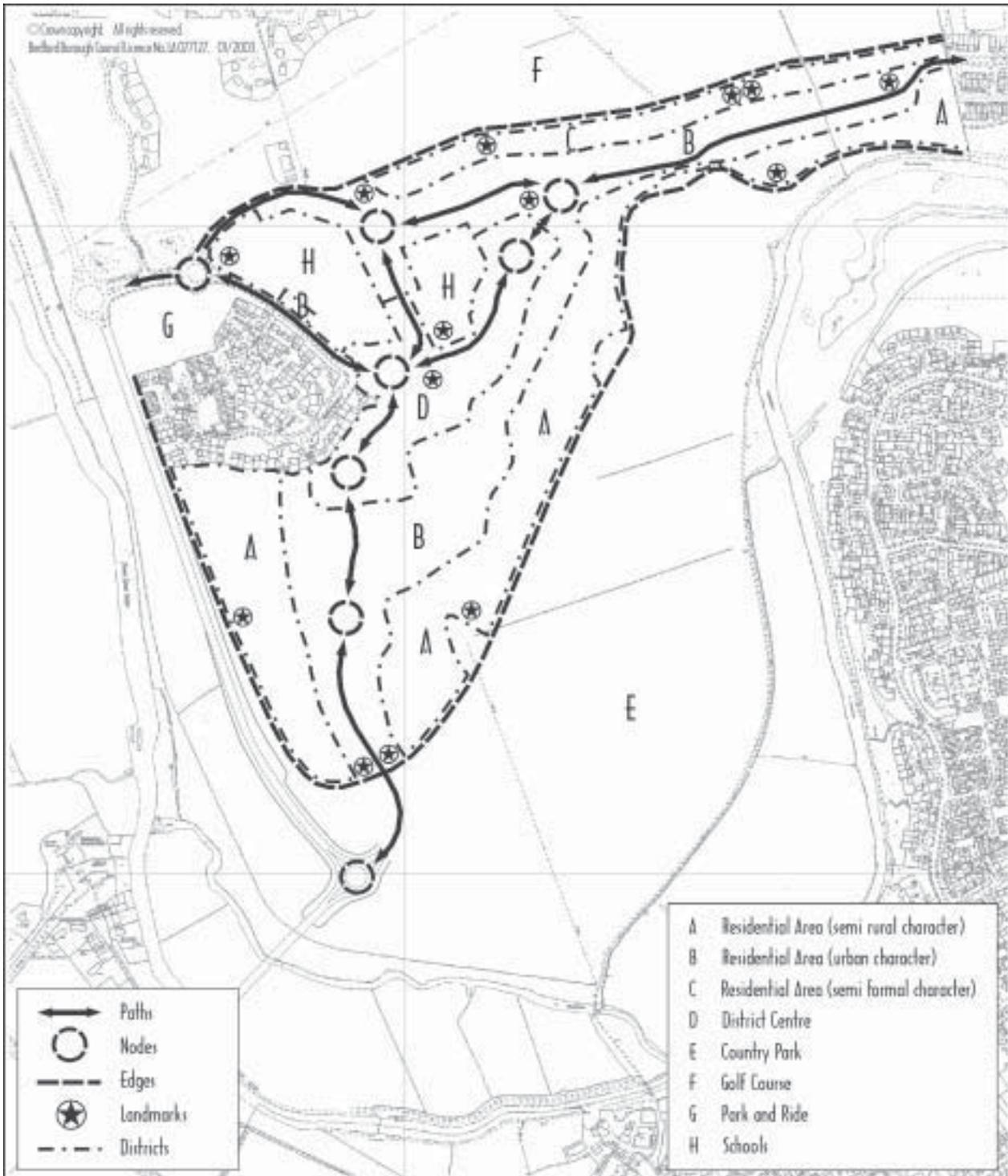
Paths

6.29 These are channels of movement and relate primarily to main roads. The most significant will be along the Western Bypass that defines the western edge of the site. To the north and south of the development area lie the major access points into the site from the Bypass. These will form the principal paths through the development area and will link into the existing built form of the Queen's Park area of Bedford.

6.30 The master plan for the site is based on an irregular or deformed block structure. However, the character of the different routes through the site created by these blocks differs considerably.

- Primary Access Roads
The master plan shows the primary routes through the site as the widest streets. These are able to accommodate the local bus and park and ride bus traffic which it is anticipated will serve the development and the wider Bedford area. As such,

Fig D Legibility Analysis



the character of these routes is sweeping. Consisting of curved roads and deflections to foreshorten views and terminate vistas, vehicular speeds should remain low whilst ensuring easy manoeuvring of large vehicles. Where appropriate, these routes are able to accommodate avenues of trees to reinforce the road hierarchy and aid legibility.

- **Secondary Streets**

In comparison with the principal access roads, the secondary routes through the site are noticeably narrower. The deformed block structure is much tighter and vistas are terminated abruptly by other blocks. Consequently, whilst permeable, movement through the site is less fluid. The character is more intimate and enclosed.

- **Semi-Rural Lanes**

These routes are mostly found where development fronts onto open space. Here, the need to assimilate the built form into the surrounding landscape dictates that it is desirable to keep road widths to a minimum. Although narrow, these roads are sweeping and mirror the development parcels as they seek to create a soft edge with the surrounding landscape.

Nodes

6.31 The main focal points or nodes within the development will occur at the two junctions with the Western Bypass and around the public squares.

Landmarks

6.32 Some strong landmark features already exist, including the golf course development to the north, the River Great Ouse to the east, south and west, and All Saints Church, Church End, Kempston. However, on their own, these landmarks will not be enough to aid legibility within the site. At the gateways to the development and around key public spaces, there will be an opportunity to provide landmark features. Here, landmarks might take the form of residential units which are of a larger scale than the surrounding development or a public building such as the middle school. At the heart of the district centre it is expected that public buildings such as the lower school will serve this purpose, although it could be a supermarket, other commercial or office facility. The sequential hierarchy of public squares will also enhance legibility.

Edges

6.33 These divide areas of different character or uses and are often linear in nature. Two distinct edges will define the development. To the north the development

will abut the golf course and take on a semi-formal character. To the south-east, south and west, playing fields, informal open space and the Western Bypass will provide another distinct edge and be characterised by semi-rural development.

Districts

6.34 It is expected that there will be a number of distinct districts or character areas within the site that will stem from the built form's response to existing features, land uses and major movement routes. These will include:

- development forming the district centre
- development fronting onto the golf course
- development bordering the informal open space/ playing fields and flood-plain
- development along the primary access roads.

Adaptability

6.35 Buildings and spaces should support a range of different activities and have the flexibility to change over time. This is particularly relevant in the case of the district centre.

Diversity

6.36 It is accepted that the majority of the development will be for residential purposes. However, the district centre will be expected to support a mix of uses, including educational, community and retail uses in addition to residential. Buildings in this area should be sufficiently flexible so that they can accommodate office or light industrial uses should the demand arise.

Urban Design Objectives for Individual Districts or Areas

6.37 Urban design objectives for individual districts or areas are set out in Appendix 3.

Landscape Master Plan and Strategy

6.38 In order to ensure continuity of design, a landscape master plan and strategy should be prepared by the developer and submitted with the outline planning application. It should incorporate the following principles:

- Set out a hierarchy of landscape character to define functions eg. within each housing area the extent and type of landscaping will be designed to establish an individual character.

- Use plants of appropriate size and species to create a transition between the open areas of the country park and the built development.
- Increase the total tree cover substantially, including extensive planting within the housing areas, using native species wherever possible.
- Avoid the creation of a hard edge to the development and minimise the visual impact of buildings on the surrounding areas. In particular, proposals should be included for the urban edge created at the interface between the built development and the Western Bypass. This edge will form the western edge to the urban area and should create a smooth transition between the open countryside and the built-up area. A hard urban edge should be avoided by including extensive landscaping between the bypass and the built development. The interface with the country park should be softened with appropriate planting. This may need to be located above the area of land liable to flood subject to the advice of the Environment Agency.
- Create gateways to the neighbourhoods and variety to the scene by varying the height and form of buildings and landscaping.
- Select species to reflect the scale of spaces within the street scene or wider setting. Small ornamental trees will be acceptable in small urban spaces but provision must be made for large growing forest type species, especially in public open areas.
- Where trees are to be planted along roads, it is imperative that this land is reserved for tree planting and is not compromised by underground services.
- Demonstrate how the landscape proposals for the Bedford Western Bypass will be integrated with proposals for this development to provide a comprehensive landscape solution for the whole site.
- Reduce the impact of noise emanating from the Bypass on adjacent residential areas where necessary by incorporating noise attenuation measures (see paragraph 9.8).
- Set out an appropriate treatment for the country park (further details are covered in paragraph 8.6).
- Retain and enhance hedgerows, wooded areas and pasture grasslands associated with the River Great Ouse and its side-channel, associated ditches and old mill-site ponds around the river corridor in order that the nature conservation significance is retained. These areas should be

managed so as to perpetuate their nature conservation interest and be enhanced by sensitive planting of selected areas.

- Consider the amenity value of grassland and the use of natural planting.
- Set out an appropriate treatment for balancing ponds and other water features. Ponds should have gently shelving banks and varying bed depth, with appropriate planting around them.
- Consider the inclusion of an area for community tree planting.

Design Guidance / Implementation

6.39 Map 4 shows an indicative master plan which draws together the urban design principles and legibility analysis described above. The Council will require the developers to prepare the following documents to show how the key urban design principles have been incorporated into their proposals. These are:

- a development framework plan and land budget
- a landscape master plan
- detailed design guidance which the Council will adopt as supplementary planning guidance before the issue of outline planning permission.

6.40 The detailed design guidance will perform the following functions:

- It will include specific guidance for key areas within the development, including the residential areas, the district centre, the main routes (vehicular, pedestrian and cycle) and the main edges. Such guidance should include a detailed legibility analysis for each area and a series of fully illustrated design concepts.
- It will provide a clear vision of how the urban design requirements will be met and how the development will be distinctive in terms of character whilst achieving a balance and mix of dwelling types.
- It will include detailed design codes giving details of the materials 'palette', public spaces, landscaping of amenity areas, play areas and gateways, boundary treatments, street furniture, lighting, car parking areas, and road hierarchy, giving street cross sections for the different types of route.

6.41 The Council will encourage the lead developer to use restrictive covenants to ensure that individual land parcels are developed in accordance with the detailed design guidance.

7 A Mixed and Balanced Community

7.1 Reinforcing the physical separation between settlements will also tend to reduce the natural opportunity for social interaction between this development and the adjoining communities. It is therefore important that the development should provide sufficient social infrastructure so that local self-sufficiency can be maximised. At the same time, the Council will require the creation of a balanced community with a range of housing tenure types and a mix of land uses, including employment, services and retail facilities to serve the development.

Residential Development

7.2 Although the Local Plan allocation for the Biddenham Loop is 1450 dwellings, revised advice from the Environment Agency on the extent of the indicative flood plain, together with a new requirement for a Middle School, have reduced the amount of land available for residential development. The precise number of dwellings will be determined through the development control process having regard to Government guidance in PPG3 which expects new development to achieve densities of 30 dwellings per hectare and above. The site will accommodate a range of densities but the emphasis in recent Government advice is on raising rather than lowering density. Nevertheless it is estimated that the capacity of the site is likely to be reduced to about 1250 dwellings. This should include a variety of different dwelling types, sizes and tenures to be agreed with the local planning authority for each neighbourhood or phase of the development, with emphasis being placed on meeting local housing needs.

7.3 In accordance with Policy H31 of the Local Plan, the Council will negotiate with developers to include an element of affordable housing within each residential area. Policy H31 requires that 30% of the dwellings on this site should be affordable so as to make its contribution to the identified housing need in the Borough, and the Council will seek to negotiate provision on this basis. Developers will be required to liaise closely with the Council's Housing Unit to define the form of the housing need in terms of tenure and type of housing to be provided, with the overall objective of creating an acceptable balance of housing throughout the development. The Council will normally seek a zero or substantially reduced land price for the

social housing to allow for affordable rents under the current grant scheme. In addition, as a general guideline, 10% of new dwellings should be built to mobility standards to meet the needs of disabled people in accordance with Policy H34 of the Local Plan and the Council's supplementary planning guidance on this topic. Affordable housing should be phased and integrated within the housing areas in small groups. It should be designed and built so as to reflect the main design elements of the private housing so that is indistinguishable.

7.4 Residential development will be sub-divided into a number of areas. Each will have a separate identity that will contain groups of dwellings providing a wide ranging residential mix. New dwellings should be designed to meet the requirements of modern living and the sustainable use of resources. For example, dwelling types specifically designed for working from home without adversely affecting residential amenity could form an essential part of the mix. Dwellings (and other buildings) should incorporate internet connections as part of the initial build. The developer should undertake an assessment of broadband availability and should ensure that broadband is provided for.

7.5 Under the provisions of the original development brief, two areas of housing have been developed to provide 250 dwellings in total. One of these, associated with the golf course, is at very low density, while the other includes an area of higher density housing located close to the proposed district centre. Given the amount of developable land remaining and new Government guidance on residential densities, future development will have to achieve higher densities on average than have been achieved so far if 1250 dwellings are to be accommodated. The precise number of dwellings achievable will be determined at the development control stage. The district centre itself and the adjoining area, in particular, will be suited to higher density development. This will enable easy access to these facilities and should encourage short journeys to be undertaken either on foot or by cycle. It will also maximise the convenience of the community facilities for the greatest number of people. Higher densities may also be appropriate along public transport routes. A possible distribution of densities is illustrated on Map 5. There should be subtle transitions between higher and lower

density areas, which should not be uniform across any one residential district but should include a variety of built form.

7.6 Precise densities will be determined on the submission of reserved matters applications. These applications will need to demonstrate that the densities proposed can be achieved through the use of appropriate layout and built form and that a satisfactory mix and range of dwelling types and sizes can be provided. It is important that all applications have regard to Policy H32 of the Local Plan which expects the mix and range of dwelling types and sizes to reflect the needs of the community, and should have specific regard to the needs of elderly people for smaller dwellings including bungalows.

District Centre

7.7 The shopping, leisure and social needs arising from the development should be accommodated in a small district centre which should serve only local needs, functioning as a local centre in terms of the Borough retail hierarchy. It will not be a district centre of the scale envisaged in government guidance: 'Town Centres and Retail Development' (PPG6). This should act as a focal point within the development. In order to achieve this, the district centre has been located where it is accessible from all parts of the site. The Council commissioned consultants CB Hillier Parker to estimate the amount of retail floorspace that was needed to serve the development. Their advice was that, on the basis of a final development of 1700 dwellings, a foodstore of about 1,000 sq m net sales area could be supported and would be sufficient to meet the needs of the development. This is the maximum amount of class A1 convenience goods floorspace that will be permitted and will be restricted by condition on the outline planning permission.

7.8 The centre should take the form of a mixed use development incorporating a variety of employment, retail, commercial, leisure and housing opportunities. In addition to a supermarket selling primarily food products (no more than 10% of net sales floorspace will be allowed to sell comparison goods) to meet only the needs arising from the new development, it may be appropriate to include a limited number of smaller service shop units to provide a cafe, hairdressers, pharmacy and other appropriate services. It will be a condition that these smaller units will not be allowed to be subsumed within the foodstore to increase its floorspace. There may also be scope for the provision of

a public house/restaurant and petrol filling station. In addition, the centre should be capable of providing space for a variety of employment opportunities in the form of offices, business use and workshop accommodation. Work units should be built to shell and made available at an affordable rent. They should be designed to enable conversion to other uses should no occupiers be found before the development is completed.

7.9 The centre should be a fully integrated part of the whole development to give it a community focus, rather than an area that is divorced from surrounding uses. Consequently, a series of individual single-use buildings separated by extensive car parking will not be acceptable. Car parking should not dominate the centre, nor should it act as a significant barrier between the centre and surrounding uses. For the centre to be lively, it must encourage different activities at different times of the day. By creating a mixture of uses, the centre is less likely to appear 'dead' after the shops have shut. It is also important that the main pedestrian/cycle routes flow through the centre and that the buildings are orientated in relation to these routes as in a traditional High Street. Low vehicle speeds should be achieved by traffic calming and other measures.

7.10 Residential development should be incorporated into the design and located above shops, offices and workshops. The dwellings should preferably have direct access at street level and be orientated so as to overlook the main public spaces. It is also important that facilities such as the proposed community hall and school are overlooked by residential properties in order to deter anti-social behaviour and vandalism. A high level of street lighting illumination is also important in this respect although care should be taken to minimise light pollution.

7.11 A multi-purpose sports/community hall should be provided to endeavour to meet the indoor leisure/social needs arising from the development. The building should be of sufficient size to be suitable for multi-purpose use including social functions, religious meetings, clinics, playgroups, and preferably incorporate a hall suitable for sports such as badminton. This should be an integral part of the district centre and be well related to the proposed school to allow for dual use of the facilities subject to relevant authorities being satisfied with operating arrangements. The needs of young people should also be taken into account through the provision of outdoor multifunctional kickabout spaces and play areas/youth facilities.

7.12 Bedford NHS Primary Care Trust has confirmed that the development at Biddenham Loop will result in a need for a healthcare facility to serve the development. This will be a building with a floorspace of 800sq m on two floors on a site of 0.4 ha. The facility will have to comply with very specific NHS guidance and procedures and should have adequate car parking (including for people with disabilities). To enable the early provision of this facility, the PCT has negotiated with the land owners to occupy a site located near the district centre, adjacent to related services and public transport stops. Provision should be made to base an ambulance paramedic unit at the facility. In addition, the County Council has indicated that space should be included within the centre for Social Services outreach work. If temporary medical accommodation is required in advance of the full facility it should be provided prior to the occupation of the first dwelling on the development. Temporary accommodation could be located in a building that would later be converted to another use.

7.13 Consultation has identified a demand for an ecumenical centre within the district centre and a site shall be reserved for such use for the duration of the development so that the new community can become established and the nature and scale of demand clarified.

7.14 The County Council has confirmed that a small library of 200 - 250sq m floorspace should be provided in the district centre. This could be combined with another facility such as a community centre, school, post office or shop and will incorporate an electronic information point.

7.15 The community centre should serve people arriving by car, on foot, bicycle and by public transport. It is therefore important that it is located where it can meet the requirements of these different groups from both within the development and from the immediate area.

7.16 The County Council has indicated that both new lower and new middle schools are required to serve the

Biddenham Loop development. A site of some 3.5 ha is required for the middle school building and sports pitches and 1.65 ha for the lower school, with both the sites and buildings to be funded by the developer. The middle school will also serve the Land West of Kempston development and therefore its cost will need to be apportioned between the two developments. The existing upper schools in the Bedford area have sufficient capacity to meet the needs arising from the development. It is proposed that the new schools be included within or adjacent to the district centre, thereby maximising pedestrian flows through the centre and in turn contributing to the liveliness and viability of the centre. A site should also be reserved in this area for a day nursery, which the County Council has indicated may be required. This could either be a separate building adjacent to the lower school or part of a larger block containing other uses appropriate to the district centre.

7.17 In order to promote recycling, the district centre should include an appropriately located 'bring' site for the collection of a wide range of recyclable materials including glass, cans, textiles etc. This should be located so as to be convenient for users and not to cause disturbance to residents.

7.18 Discussions have been held with the Police and they have advised that, provided sufficient coverage could be achieved, an extension to the town's CCTV system would be beneficial for community safety. Any such extension would have to be funded by the developer. Developers should therefore consider the introduction and extent of CCTV coverage in conjunction with Bedfordshire Police and the Borough Council.

7.19 A site should be reserved adjacent or near to St James Church, Biddenham for the expansion of the church cemetery. The developer should undertake any archaeological investigations necessary to determine the suitability of alternative locations and fund the provision of the cemetery, dedicating land ownership to the Church.

8 Open Space

8.1 The open space and landscape network has an important role to play in terms of:

- establishing character and an early sense of maturity
- integrating the development into the existing landscape
- providing for the formal and informal recreation needs of residents
- protecting and supporting wildlife, thus increasing biodiversity
- reducing the use of energy, water and other resources
- minimising pollution.

8.2 Open space has been provided in association with the existing residential development. The remaining area will be expected to provide open space in accordance with the Borough Council's adopted standards. Based on a total development of 1250 new dwellings, this amounts to a minimum of 9.4 - 10.6 hectares of open space for the development. Should the capacity of the site vary from this number of dwellings, contributions should be provided pro rata. The following table shows how this is derived.

Type of provision and standard	Requirement for 1250 Dwellings
Outdoor Sport 0.4 - 0.45 ha per 100 dwellings	5.0 - 5.63 ha
Outdoor equipped play space 0.05 - 0.075 ha per 100 dwellings	0.63 - 0.94 ha
Informal play space 0.10 - 0.125 ha per 100 dwellings	1.25 - 1.56 ha
Amenity open space 0.1 ha per 50 dwellings	2.5 ha
Total (hectares)	9.38 - 10.63

8.3 It must be remembered that the usefulness of open space relates to the manner of its distribution in terms of size and individual areas, the facilities it contains and its accessibility to users. Open space must

therefore be distributed throughout the housing areas. In accordance with Policy LR16 of the Local Plan, provision for children's play will follow the National Playing Fields Association guidance which defines three types of play area. These are:

- Local Areas for Play (LAP) to serve very young children, located within 1 minute's walking time of home (60 metres)
- Local Equipped Areas for Play (LEAP) for children of early school age, within 5 minutes' walking time of home
- Neighbourhood Equipped Areas for Play (NEAP) for older children, within 15 minutes' walking time of home.

8.4 Open space, whilst primarily for recreation use, can fulfil a variety of other objectives including ones concerned with conservation and enhancement of both the natural and built environment. In the development which has already occurred and that still to come, open space should be used to:

- secure 'green wedges' between Biddenham, Bromham and Kempston and the development in the Biddenham Loop
- secure the opening up to community use of the environs of the River Great Ouse
- provide the appropriate setting for a riverside walk linking with Bromham Mill and Hillgrounds, and opportunities for countryside recreation, both on foot and cycle
- retain and enhance features of landscape and nature conservation interest
- preserve in-situ wherever practicable defined sites of archaeological importance
- enhance and define movement corridors through the use of 'greenways' and enable the greenspace to flow through the development from the country park.

8.5 It is proposed that the outdoor sport provision be accommodated within the country park. This would allow the shared use of car parking and services. Changing facilities with ancillary car parking should be provided by the developer. Within the building, provision should be made for park wardening, interpretative and refreshment facilities. Consideration should be given to the provision of facilities specifically

for youth. To maximise their usability, the playing fields should be located above or on the edge of the area of land liable to flood. No buildings must be placed in the floodplain unless compensatory excavations are carried out. Although recreational use of floodplain is supported, there must be no ground raising, including for footpaths/cycleways and no kickboards/fencing associated with any sports pitches. There must be no loss of flood storage within the designated floodplain. Careful landscaping will be necessary to reduce the impact of the sports fields upon the more natural and intimate landscapes of the rest of the country park. Although the area of the country park will exceed the minimum standard required for all open space, it alone could not meet the locational and functional requirements.

Country Park

8.6 The country park will be located mainly in the south of the Biddenham Loop but will include the line of the river valley. Part of it has already been provided in conjunction with the housing areas already developed. There is an opportunity to improve existing planting and to enhance and introduce habitats. Landscape types should reflect the character of the river valley landscape and include wetland, ponds, pastoral agriculture, woodland, amenity grassland, meadow and scrub. Existing native trees and shrubs should be retained where possible and native species of local provenance should be planted. Woodland and meadows within the floodplain should reflect the character and species diversity typical of the River Great Ouse corridor. Blocks of woodland should be planted to screen views of the housing areas. The country park should provide a variety of spaces and varying degrees of enclosure. Informal recreation should be considered in the detailed design of the park as well as an area for sports pitches (see above). Seats and shelters should be appropriate to the semi-rural setting. There should be a network of footpaths and cycleways running through the country park and these should link to those within the area of built development and also beyond the site. It is intended that the park will be dedicated to the Council as a public facility and be used for predominantly informal recreation. All sections of the country park, including the riverside corridor, should be readily accessible from the development area and several small car parks should be provided on the fringe of the new housing area to cater for visitors to the park.

8.7 In designing the country park consideration should be given to extending recreational facilities on the River Great Ouse. Lifebuoys and warning signs will be required along the river bank where there is public access (plus a commuted sum for their maintenance). Additional short-stay moorings may be appropriate downstream of Kempston Mill. However, any additional water-based activities should be in keeping with the essentially rural character of this part of the river and not jeopardise nature conservation. It should be noted that one of the route alternatives for the proposed Milton Keynes to Bedford canal joins the River Great Ouse at Kempston Mill, however, no final decision has been taken on whether the scheme will proceed. Some land in the floodplain between Kempston Church End and Kempston Mill is shown as agriculture/country park on the master plan. This reflects the current use for private grazing and there are no proposals to change the status of the land.

8.8 Much potential exists for enhancing the wildlife and recreational value of the River Great Ouse. Considerable amounts of woodland planting of native species will be required to augment the existing tree and shrub cover. This, together with the possible introduction of new wetland types in the south of the area, will create a more diverse range of habitats and increase opportunities for recreation. However, detailed consideration will need to be given to the management of the river corridor and associated habitats, including reconciling public access to the needs of wildlife. Potential developers should seek the advice of English Nature, the Ivel and Ouse Countryside Project and the Council on these matters.

8.9 The landscape master plan should set out principles for the landscaping and planting of the remaining area of the country park to be developed and should be submitted prior to the granting of outline planning permission. In addition to this, the developer will be expected to submit a full landscape and planting scheme to the Council for approval. Once the remainder of the country park has been laid out, landscaped (and maintained for five years so that any problems can be rectified), it will be dedicated (with financial provision for maintenance) to the Council as a public facility. As an alternative to the developer implementing the proposals, the Council would be willing to consider acceptance of a commuted sum for construction, planting, maintenance and management, and to develop the country park itself.

9 Routes and Movement

9.1 The Bedford Western Bypass will carry through traffic between the A421 and A428 enabling the focus within the development to be on local movement. In line with government policy guidance, the Council will require the development to incorporate measures to lessen the reliance placed on the car and to encourage walking, cycling and public transport. It should be noted that the County Council is preparing revised highways design guidance and account should be taken of the latest advice. Further guidance can be obtained from *By Design - Urban Design in the Planning System: Towards Better Practice* produced by the Department of the Environment, Transport and the Regions and the Commission for Architecture and the Built Environment in May 2000 and *Places, Streets and Movement: A Companion Guide to Design Bulletin 32* produced by the Department of the Environment, Transport and the Regions in September 1998.

Walking and Cycling

9.2 A comprehensive network of footpaths and cycleways should be incorporated into the development, linking the housing areas with the district centre, schools, community facilities, the country park and the surrounding area. These should link with routes provided already as part of phase 1 of the development. The provision of safe pedestrian/cycle routes to the schools will be essential. Cycle parking facilities should be provided at public destinations such as shops, schools and community facilities. A series of circular walks and cycleways, suitable also for use as bridle routes where appropriate should also be provided within the country park linking with Bromham Mill; these are likely to be more informal in nature. In addition, and as part of the country park and pedestrian access proposals, the developer shall provide a pedestrian/cycle bridge from the development to link with the Hillgrounds recreation area of Kempston. In designing footpaths and cycleways, good principles of community safety should be followed (see paragraph 4.18). In particular, they should be overlooked by housing where possible to allow natural surveillance to improve safety. Paths should generally be lit (with lighting directed downwards) except within the country park. Footpaths should permit disabled access. Careful consideration needs to be given to the planting of trees near footpaths and cycleways to avoid surface damage by roots and to ensure an open, direct route. Although

recreational use of the floodplain is supported, there must be no ground raising, including for footpaths/cycle ways. There must be no loss of flood storage within the designated floodplain.

9.3 The network of cycleways will link to the National Cycle Network, launched by Sustrans in 1995, providing opportunities for public access and leisure pursuits, and linking Bedford with Milton Keynes and Sandy via National Cycle Network route 51. Developer contributions will be sought to upgrade the cycleway, to be provided along the edge of the built area, to a Sustrans route and the advice of Sustrans should be sought on construction standards. The route will run from the distributor road bridge over the river and along the edge of the country park to Queen's Park where it will link with the existing riverside cycle route to the town centre.

Public Transport and Park and Ride Facility

9.4 As part of the integrated transportation strategy for Bedford/Kempston a public transport system should be incorporated into the development. This should take the form of a public transport link between the built-up area of Bedford and a park and ride facility to the south-east of junction 2 on the Bedford Western Bypass. This will connect with Bedford Midland Station and the town centre via a bus only link to Old Ford End Road. Although this road will have dwellings fronting onto it and will give access to part of the development area, it will be designed so that this local traffic will not interfere with its function as a public transport link. The link should be provided before any housing is occupied in phase 2 of the development (see Implementation section). It should be noted that the Council's Queen's Park East development brief includes provision for a new foot/cycle crossing of the railway to link directly to the station and the feasibility of incorporating a bus crossing is to be explored.

9.5 In addition to the park and ride transport link, local bus routes will be established using the main estate roads. The design of the highway should ensure that priority is given to buses. Bus stops and shelters as appropriate should be located so that the maximum walking distance from any dwelling is 400m to a stop. The advice of Bedfordshire County Council should be sought on bus routes. Developers will need to consult

with service providers regarding the levels of public transport service to be provided and the infrastructure improvements expected, and agreements should be in place before development commences. In accordance with the draft Local Plan, the Council will seek developer contributions for both the capital implementation costs of public transport measures and the revenue costs of funding for public transport, including the revenue support of services in order to assist the achievement of sustainable development. Developer contributions will be used from the first occupation of development to improve local bus services.

9.6 The park and ride facility will have capacity for approximately 500 spaces and a site has been set aside beside junction 2. It should provide a hard surfaced, safe and secure parking area, protected by CCTV and be adequately fenced, landscaped and lit. The CCTV should be linked to the town's system. The facility should include a terminal building to provide a sheltered waiting area for passengers, information on bus services, toilets, public telephone and an office for an attendant. There should also be provision of secure/covered cycle storage facilities. The layout of the facility should include access by buses to the terminal building and suitable pedestrian routes for access to parking cars and signing on approach roads. Part of the car park could be used by visitors to the country park and could form a natural 'gateway'. Pedestrian access between the park and ride car park and the country park should be incorporated into the design of junction 2 of the Bedford Western Bypass. This will be an at-grade crossing point, helped by splitter islands. Under the provisions of the legal agreement for the first phase of the Biddenham Loop development, the first phase of the park and ride car park has to be provided before the occupation of 248 dwellings and the first phase of the facility should be fully implemented when the public transport link is completed. The second phase will follow before the occupation of 500 dwellings or within two years of commencement of the development (see para 11.11).

Bedford Western Bypass

9.7 An essential aspect of the development is the requirement to contribute to the construction of the Bedford Western By-pass. Phase one of the Biddenham Loop development included a distributor road south from the A428 as far as junction 2 as shown on the master plan. The provision of the Bedford Western Bypass will involve the construction of a new link from junction 2 to the A421, including a crossing of the

River Great Ouse. Planning permission for this was granted on 18th October 2000. The road has been designed to be capable of upgrading to dual carriageway at a future date if required. Facilities proposed adjacent to the route should not prejudice future dualling, although this should not prevent essential landscaping. South of the river, the road will be provided as part of the West of Kempston development. A legal agreement for both sites will be needed to coordinate the provision of the river crossing and road to ensure its completion as far as the A421.

9.8 The approved plans for the bypass include a 2.5m earth bund along parts of the bypass and adjacent housing areas to reduce noise and air-borne vibration. Nevertheless, the developer will be responsible for ensuring that the effect of actual and predicted noise levels from the bypass on the development are within acceptable limits. A pedestrian crossing point to give access to this part of the river bank and country park will be included at junction 2 of the bypass.

Highways

9.9 In designing the secondary streets the aim should be to create a safer, more attractive environment, where the motor vehicle is made to feel an intruder within an essentially pedestrian area. They should be designed so as to constrain vehicle speeds to 20 mph. This applies not only to residential areas but also to the district centre where people will gather on visits to the shops, services, community centre or school. Priority should also be given to the needs of pedestrians and cyclists at junctions and main crossing points. Streets should be predominantly the domain of the pedestrian and cyclist rather than the motor vehicle. These should be designed to encourage a wide range of social and physical activities including, where appropriate, children's play. One way to achieve this is by means of shared surfaces. It may be appropriate to design some streets as 'home zones'. Various measures should be incorporated into the layout to reduce vehicle speed within the housing areas. Effective design can utilise the following to reduce speeds:

- building frontages
- road alignment eg. bends
- topography/contours
- junction positioning
- sight lines
- routing
- clear indication of priority.

Further guidance is contained in the Council's design guide *Traffic Calming - Streets for People*.

9.10 Numerous supporting measures can be used to supplement and enhance the perception to slow speed. These can include signalised crossing points, speed limits, width restrictions, signing, lighting, coloured road surfacing, road markings, junction/area gateways, junction narrowing, 90° bends, sheltered parking, islands, chicanes, over-run areas at junctions, speed tables at junctions and edge planting.

9.11 The Council will be seeking to achieve imaginative approaches to the provision of car parking for both residents and visitors. In the light of current Government guidance that encourages the reduction of car parking standards, developers should ensure that parking provision is kept to a minimum. Advice from the Police Architectural Liaison Officer is that residential parking courts should be lit and with lockable gates. Significant generators of traffic, such as shops and schools, should produce travel plans in line with the requirements of PPG13. Such plans will include proposals for the promotion of usage of public transport, cycling and walking.

9.12 Within the district centre, car parking provision should be made to serve the shopping, leisure, community, educational, residential and employment uses. Consideration should be given to the dual use of parking provision to serve these facilities. Additional car parks should be provided on the fringe of the development to serve both visitors to the country park and users of the playing fields. It should be noted that no direct vehicular access to car parking will be permitted from the Bedford Western Bypass.

9.13 An emergency link has been provided to Manor Road, Biddenham as part of the development already permitted. The dedicated public transport link to Old Ford End Road should be designed also to be useable as an emergency route for fire engines and ambulances wishing to obtain access to the development or alternatively to Queen's Park. Measures should be taken to ensure that this link is not used by general traffic. Use of this access point for construction traffic will also not be permitted.

Traffic Calming

9.14 The Council is keen to ensure that the environmental impact of traffic, both using the Bedford Western Bypass and generated by the development itself is minimised. This matter should be addressed in the environmental assessment to be undertaken as part of the outline planning application so that appropriate mitigation can be considered.

Travel Assessments

9.15 A travel assessment will be required from developers to ascertain the impact of travel to and from the development. The travel assessment should consider the provision for travel by walking, cycling, public transport and the mobility impaired before the needs of the private vehicle. Any proposals should seek to minimise the need for and distances travelled, particularly by the car. It should give priority consideration to providing opportunities to encourage modal shift. Prospective developers are advised to agree the scope of the travel assessment with the relevant Highway Authority at an early stage. The information contained within the travel assessment must be sufficient to enable an assessment of:

- how well the development meets general and specific policy objectives contained in the Local Transport Plan, other national and local policy guidance
- the specific measures to encourage access and movement by public transport, walking and cycling
- the nature and scale of any changes required to the travel networks and services to and near the development, including any traffic mitigation measures that may be necessary on the A428 corridor
- particular consideration given to safe routes to existing and proposed catchment area schools and need for any associated infrastructure improvements
- any financial or other contributions that the developer might make towards the cost of such changes needed.

10 Energy

10.1 The Council is keen to promote the efficient use of scarce energy resources. In particular, it will require residential layouts to be energy efficient and ensure that waste is minimised. Supplementary planning guidance on this issue is being prepared. The Council will require the environmental assessment that accompanies the planning application for the development to specifically address energy, natural resource and waste minimisation impacts.

Energy Consumption

10.2 Developers will be required to prepare and submit with the outline planning application an energy statement to include:

- minimisation of energy use
- use and implementation of renewable and innovative solutions to energy
- water conservation and waste recycling
- the provision of recycling facilities
- the provision of composting bins for dwellings
- the provision of water butts for dwellings
- provision of energy generation by use of solar panels or photo-voltaic cells
- an eco-homes rating of 'very good' for residential buildings
- a BREEAM rating of 'good' for commercial buildings
- the use of secondary or recycled aggregates and sustainable materials.

10.3 The principles contained in the energy statement will need to be reflected in the detailed design guidance that is to be submitted prior to the granting of outline planning permission (see paragraph 6.40). It will be a condition of the outline planning permission that the reserved matters applications will be required to include a statement that demonstrates how the detailed design addresses the criteria contained in the energy statement.

10.4 In addition to the 'bring' sites to be located in the district centre, a second 'bring' site will be needed elsewhere in the development to ensure that residents do not have far to travel to their nearest site and to provide the opportunity to recycle a wide range of materials. In addition, sufficient provision should be

made at individual properties for storage of recyclables. The space to store materials and source segregation has been identified as the most effective way to increase recycling levels. The Bedfordshire and Luton Waste Strategy states that waste collection will move to a three-stream system in the near future. This will involve collection of various wastes from households in separate containers. Accordingly, dwellings in the proposal should have sufficient storage space for off-street storage of up to three waste receptacles. In view of the scale of development proposed at Biddenham Loop and land west of Kempston, Bedfordshire County Council has requested that a site for a 'tidy tip' of 0.6ha be included in one or other of the sites, or failing this, a financial contribution be given in lieu.

Efficient Use of Land

10.5 In order to achieve many of the sustainability aims set down in this brief it is recognised that an appropriate range of densities will need to be achieved. Government guidance in PPG3 states that housing development should make more efficient use of land by seeking higher densities, particularly at places with good public transport accessibility. It states that housing development at a density of between 30 and 50 dwellings per hectare net should be encouraged, while that below 30 dwellings per hectare should be avoided as making inefficient use of land. The development that has already been completed on the site, at its most dense, does not exceed 35 dwellings per hectare net. Given the amount of developable land remaining and Government guidance on housing densities, future development will have to achieve higher densities on average than have been achieved so far if 1250 dwellings are to be accommodated. It is expected that the district centre, which provides the focus for facilities and activity, will be the most urban in character. It is likely to be the part of the site best suited to higher density housing. Higher densities may also be appropriate along public transport routes.

10.6 In the context of achieving an energy efficient movement network, density levels and use intensity levels should vary in relation to the level of public transport accessibility. Throughout the site, the Council will expect land to be used efficiently in the context of achieving a quality residential environment.

11 Implementation

11.1 Private developers will carry out the majority of the development proposed in the brief. However, other bodies including statutory undertakers, housing associations, the Parish Council, Bedford Borough Council, Bedfordshire County Council and the Highways Agency will clearly have roles to play.

11.2 As previously noted, a development brief was approved for the Biddenham Loop in 1994. This envisaged a total development of 1700 dwellings. Planning permission was granted for 250 of these (which have now been largely completed) and a legal agreement signed to secure certain other facilities, including part of the distributor road, country park and district centre. The commencement of building on the remainder of the site is dependent upon the granting of planning permission together with the completion of the necessary legal agreements.

11.3 The key implementation objectives which developers will be required to address are to:

- secure by way of binding agreements and other mechanisms as appropriate, the development of the site including the provision of the strategic distributor road in accordance with the Local Plan and this brief
- adopt the appropriate mechanisms for achieving and maintaining a high quality, distinctive development with a full range of appropriate infrastructure, affordable housing and facilities within acceptable time limits.

The Outline Planning Application

11.4 The Council will expect an outline planning application for the remainder of the development to be supported by the following:

- an environmental statement, prepared in accordance with the appropriate environmental assessment regulations (the statement should include impacts from distributor road noise, air pollution and electromagnetic radiation amongst other impacts)
- a development framework plan
- a land budget
- a landscape master plan and strategy (see paragraph 6.38)

- a travel assessment, prepared in accordance with the requirements of the Highways Agency, Bedfordshire County Council and the local planning authority (see paragraph 9.15)
- strategic highways plan
- an assessment of the measures necessary to implement the bus link from the development to Bedford town centre (see paragraph 9.4)
- an archaeological field evaluation (see paragraph 4.11)
- a surface water management plan (see paragraph 4.4)
- an energy statement (see paragraph 10.2)
- an environmental monitoring scheme to control nuisance (noise, dust, etc) during construction
- a draft legal agreement.

As part of the outline planning application the developer will be expected to produce supplementary planning guidance in relation to landscape and design matters. The scope of these documents is set out in paragraphs 6.38 and 6.40. The guidance will need to be approved by the Council before the issue of outline planning permission.

Planning Obligations and Conditions

11.5 The following matters will need to be dealt with by condition or, if necessary, by planning obligation:

- the timing and phasing of the development
- the delivery of the strategic distributor road including the transfer of land (including for dualling) to the highway authority and contractual commitment to completion of the single carriageway road
- the provision and timing of all elements of the district centre, including education, retail, community and other elements
- the provision of on- and off-site highway/transport improvements including any traffic mitigation measures that may be necessary on the A428 corridor
- the provision of bus facilities and contributions to bus services

- park and ride provision
- the provision of open space (including the country park), pitches and play facilities
- contributions to public art
- affordable housing provision
- archaeology
- the provision of fire hydrants
- ongoing management and maintenance of community facilities, including commuted sums as necessary for the amenity land and landscaped areas, public open space, play and youth facilities, roads, footpaths and cycleways, and the country park.

Reserved matters applications will need to be accompanied by statements explaining how the supplementary design guide, energy statement and landscape strategy have been incorporated. Applications for proposals for significant generators of traffic, such as shops and schools, should be accompanied by travel plans in line with the requirements of PPG13. Such plans will include proposals for the promotion of usage of public transport, cycling and walking.

The Strategic Distributor Road

11.6 The developer will be required to enter into a planning obligation to secure:

The funding of the strategic distributor road

- The planning obligation will require the payment of monies to secure the full cost of acquisition and transfer of land, including transfer of land for future dualling, and the full construction costs of the strategic distributor road (payments to be on the basis of land sales), and will set out an arrangement for the holding of capital contributions. The method for establishing costs will be agreed by the applicant/developer with the Local Planning Authority and Highway Authority.
- Prior to the occupation of the 500th dwelling (on the basis of dwellings built in total on this site and land to the south allocated under Local Plan Policy H7)
 - i) all the necessary funds will be in place and held by the Bedford Borough Council to fund the full construction costs of the strategic distributor road
 - ii) details of pre-contract works will be submitted to the Highway Authority.

The provision of the strategic distributor road

The planning obligation will ensure that the strategic distributor road is provided within the following timescale:

- Prior to the implementation of development all of the land necessary to complete the strategic distributor road, including land for future dualling, will be dedicated to the Highway Authority and transferred at that stage or thereafter on demand by the Highway Authority as it requires.
- The strategic distributor road will be completed and open to traffic within the following timescale:
 - i) before occupation of the 902nd dwelling within the site (Local Plan Policy H6) and land allocated for development to the south (Local Plan Policy H7), or within two years of completion of 500 dwellings on the site (H6) and the land allocated to the south (H7), of which no more than 701 shall be occupied within the site (H6) or
 - ii) before occupation of the 701st dwelling on the site (Local Plan Policy H6) whichever is the sooner.

11.7 It is likely that this obligation will necessitate that landowners enter into a landowners' agreement. This agreement will be in place before the issue of any outline planning permission to give effect to the requirement for all land to be dedicated to the Highway Authority.

Phasing

11.8 The part of the site which has already been developed can be considered to be the first phase of development. In accordance with Policy H6 of the Local Plan, development of the remaining area will require the completion of the strategic distributor road southwards across the River Great Ouse to the A421 prior to the occupation of the 701st additional dwelling. Policy H6 also states that sufficient land should be reserved to enable this road to be built and fully upgraded to dual carriageway, to the satisfaction of and dedicated to the Highway Authority, on the issue of the first planning permission. This means that the remaining development covered by this brief can be considered in two further phases:

- *phase 2* the occupation of 700 dwellings prior to completion of the strategic distributor road

- *phase 3* the occupation of the remaining dwellings after completion of the strategic distributor road.

The allocation of the remaining requirements of this brief between these phases is discussed below. This will be secured by way of binding legal agreements. Certain elements will however, be required before the commencement of further development. At the end of this section is a table which lists the elements and their phasing within the development.

Phase 1

11.9 Phase 1 of the development, as specified in the existing Biddenham Loop legal agreement, comprised:

- part of distributor road
- 250 dwellings
- golf course
- part of district centre (to provide meeting place, shop, site for health centre)
- part of park and ride site
- public transport link within 2 years of completing dwellings
- part of country park.

Of these elements, the part district centre, park and ride site and public transport link remain outstanding. A planning application was submitted for the part district centre, however this was refused permission by the Council. A planning application for the park and ride site has been submitted and remains to be determined. The trigger in the legal agreement for provision of the public transport link has not yet been reached. Prior to the approval of any planning application in relation to phases 2 and 3, landowners/ developers will need to disclose the mechanism that is in place (or should be put in place) to ensure that such outstanding elements of phase 1 are designed, approved, financed and built to a timescale that both meets the requirements of the existing legal agreement (or as subsequently modified) and of phases 2 and 3 as set out in this brief.

11.10 Outline planning permission was granted in 1995 and renewed in 2000 for certain elements of the district centre. A reserved matters application for a retail unit, medical centre and temporary community centre was refused permission in 2001 and appeal dismissed in February 2002. The completion of the district centre, to include those elements specified in paragraphs 7.7 - 7.18 will be expected at an early stage within phase 2 of the development.

11.11 A planning application has been submitted for the park and ride facility. Under the provisions of the legal agreement for the first phase of the Biddenham Loop development, part of the park and ride car park has to be provided before the occupation of 248 dwellings. The facility should be completed in its entirety before the occupation of 500 dwellings in the development as a whole (ie. comprising phases 1, 2 and 3) or within two years of commencement of phase 2 of the development. Also under the legal agreement for the first phase of development, details of the public transport link must be approved before the occupation of 249 dwellings and it should be completed within two years of completion of 250 dwellings as a whole. The link will require improvement works along the route to the town centre and the developer should evaluate the measures necessary in consultation with the County Council.

Phases 2 and 3

11.12 In order to reduce the visual impact of the development, advanced structural planting will be required before any housing is occupied in phase 2 of the development. This could include works required in connection with the strategic distributor road where feasible. Landscaping of the remaining area of the country park should also be completed before the occupation of any dwellings. The Hillgrounds pedestrian /cycleway bridge shall be provided in conjunction with the country park and before the occupation of the 701st additional dwelling. Cycleways within the country park (including those that will connect to the town centre) shall be provided in conjunction with the country park. Once the strategic distributor road river crossing is complete, the Sustrans National Cycle Network route 51 shown on Map 4 should meet the requirements of a Sustrans route and the advice of Sustrans should be sought on construction standards.

11.13 The phasing of all facilities, including the country park, open space, playing fields, changing rooms, car parking, landscaping, district centre, park and ride, public transport link, footpaths/cycle routes, social housing, schools, Hillgrounds bridge and sports/ community/library facilities will be included within a legal agreement. The community centre should be provided early in the second phase and be available by completion of the 200th house. Land for the cemetery expansion should be made available to St James Church, Biddenham prior to the commencement of phase 2 of the development.

11.14 Arrangements will also be necessary for the dedication of the country park to the Council as a public facility. Highways, areas of open space, children's play areas and landscape corridors should also be made available for adoption by the appropriate authorities. The developer will be required to submit detailed schemes for the maintenance and management of such areas and pay a commuted sum based on reasonable 30 year establishment, maintenance and management costs.

11.15 In the interests of integrating the proposed development with that which has already been completed on site, delivering planned urban expansion and establishing an early community focus for the site, the Council will expect residential development to commence in and adjacent to the district centre and along the public transport link, thereafter moving south across the site.

Management

11.16 The Council will wish to ensure that effective mechanisms are in place at the outset of the development

for the management and maintenance of the following:

- community facilities
- amenity land and landscaped areas
- surface water storage areas (a maintenance sum to cover costs for 30 years will be required)
- public open space (including the country park)
- roads, footpaths, cycle routes and other highway infrastructure including 'bus gates' and bollards
- the park and ride facility.

These mechanisms will need to be agreed before the grant of outline planning permission. Discussion will be needed with the Highway Authority concerning the adoption of highways.

Adoption of Infrastructure

11.17 Whilst it is beyond the scope of this brief to specify when roads, lighting and drainage are adopted, developers will be encouraged to pursue adoption of all relevant infrastructure as soon as is practicable.

BIDDENHAM LOOP PHASING SUMMARY

Phasing	Phase 1	Phase 2	Phase 3
Housing			
Market housing	✓	✓	✓
Affordable housing	✓	✓	✓
Mobility housing		✓	✓
District Centre			
Foodstore		✓	
Small shop units		✓	
Pub/restaurant		✓	
Petrol filling station		✓	
Employment units		✓	
Medical centre		✓	
Schools		✓	
Day nursery		✓	
Sports/community hall		✓	
Library		✓	
Open air recreation			
Golf course	✓		
Country park	✓	✓	
Sports pitches and changing facilities		✓	✓
Neighbourhood equipped area for play		✓	
Local equipped areas for play	✓	✓	✓
Local areas for play	✓	✓	✓
Amenity open space	✓	✓	✓
Landscaping	✓	✓	✓
Advance landscaping	✓	✓	
St James Church cemetery expansion		✓	
Movement			
Strategic distributor road/Bedford Western Bypass	✓	✓	
Local estate roads	✓	✓	✓
Park and ride site	✓	✓	
SUSTRANS route			✓
Local footpaths and cycleways	✓	✓	✓
Public transport link	✓		
Hillgrounds bridge		✓	

Appendix 1 Ecology

1. Ecologists have carried out a comprehensive ecological assessment of land lying within the loop of the River Great Ouse at Biddenham. The assessment was based on survey work carried out during March 1991 and on information obtained from the following recognised sources:

- The Nature Conservancy Council for England (English Nature),
- Bedfordshire and Cambridgeshire Wildlife Trust,
- Bedford Museum Biological Records Centre (BMBRC),
- The British Trust for Ornithology.

2. The ecological assessment and sites of ecological significance are illustrated on Maps 2 and 3.

Designated Sites and Other Recorded Sites of Interest

3. The consultation draft Nature Conservation Strategy for Bedfordshire, published by English Nature and the County Council in October 1993, identifies Wildlife Priority Areas. These represent concentrations of wildlife habitats and important biogeographical features where positive action will produce the most significant benefits for wildlife. The River Great Ouse Valley is identified and thus the land in the Biddenham Loop.

4. The River Great Ouse itself is designated as a County Wildlife Site (CWS) by the Beds and Cams Wildlife Trust, in collaboration with English Nature. This is a non-statutory county level designation, applied to sites which are of greater than local significance, but which do not meet the criteria for national designations such as Sites of Special Scientific Interest (SSSI). The CWS includes the section of the river known as the Biddenham Loop. Whilst the CWS is only notional (ie. there is no firmly defined boundary), it can be taken to include the pasture areas of the brief site, and all of the associated ditches, as well as the old mill-site ponds (MP1, MP2). As these areas of nature conservation interest are located around the periphery of the brief site there need be no conflict with development which is located away from the peripheral areas.

5. No other designated sites occur within the study area, statutory or otherwise.

6. The nearest statutorily designated site to the study area is the Biddenham Pit SSSI, which lies about 0.5km away from the northern periphery. This SSSI is designated on geological grounds, but lies within an area of woodland (Deep Spinney) identified in the Bedford Borough Local Plan 1993 as being of local significance for nature conservation. The nearest biological SSSI is Hanger Wood, which lies some 1km away from the western edge of the site.

7. County Wildlife Sites occur along and adjacent to the river running upstream (north) of the site boundary, one of which includes the Bromham Park heronry. Another CWS lies downstream of the study area, about 0.5km away from the easternmost corner. In addition, there are a number of sites identified in the Local Plan as being of local ecological significance, lying to the west of the Biddenham Loop.

Ecological Evaluation

8. The main feature of ecological importance on this site is the corridor of habitats associated with the River Great Ouse and its side-channel (SC1). This corridor comprises the river and its banks, the pasture grasslands (E1 - E8), the wooded areas W2, W3 and W3a, and all the associated ditches, hedges, trees and scrub. These include H1 and its associated ditch, hedges H20, H21 and H23, the ditch D1 and the old mill-site ponds. Taken together, these features provide a complex and diverse system of riparian and floodplain habitats, supporting a wide range of plant species of particular value to birds and invertebrates.

9. The old mill-site ponds (MP1, MP2) are of considerable ecological value in their own right, providing a sequence of integrated wetland habitats, and supporting a varied flora. These features are also of particular value to birds and invertebrates.

10. The remainder of the site appears to be of limited ecological value, particularly the arable lands. The hedges of the northern periphery (H4 - H11) and north of Church End (H1 - H3, H24), and their associated standard trees are valuable habitat elements, as are the minor wooded areas such as the neglected orchard (O1) and the wooded area (W4), but elsewhere the ecological value is negligible. The only

recorded ecological interest of the arable zone is the regular occurrence of one or two pairs of nesting grasshopper warblers.

11. On the basis of this evaluation, it appears that the Biddenham Loop site contains no features which can be said to be of national significance in terms of nature conservation. The individual elements of the river corridor are not in themselves of outstanding interest, but taken together they form a system of habitats which qualify as being of a county level of significance. This is reflected in the designation of the river as a County Wildlife Site. The old mill-site ponds can be considered as forming part of this system, although they are important in themselves, being certainly of local significance.

12. The remaining hedges, standard trees, ditches, arable lands and minor wooded areas are of no more than local significance, although the presence of grasshopper warblers is noted.

Ecological Recommendations

13. The river corridor areas and old mill-site ponds should be retained with appropriate management as

part of any development proposals for this area. This corridor should include the enclosures E1 - E8, wooded areas W2, W3 and W3a and associated hedges, trees and ditches. These areas should be retained so as to perpetuate the current situation, and could be enhanced by sensitive planting of selected areas with native trees and shrubs, low-intensity agricultural use of the grasslands with minimal further improvement, and the creation of new wetland areas alongside the river.

14. Elsewhere on the site, hedges and standard trees should be retained wherever possible and enhanced by replanting with native species. Appropriate management regimes should be considered so as to increase the current level of structural diversity. Additional areas of native broadleaved woodland would be valuable.

15. Any development proposals should give consideration to the incorporation of new habitats within any open space or amenity areas. These could include new areas of herb-rich grassland sward, new ponds and wetlands. Consideration should be given to the incorporation of small areas suitably designed for use by grasshopper warblers.

Appendix 2 Archaeology

The Research

1. Three pieces of research have been carried out in order that the archaeological importance of the area could be examined.

2. The first was an archaeological¹ brief prepared by Bedfordshire County Council Conservation and Archaeology Section in August 1990.

3. The second was a preliminary archaeological assessment by consultants - Countryside Planning and Management - in March 1991. Both of these investigations highlighted a potentially significant archaeological dimension to any proposed development and recommended a detailed assessment of the recorded archaeology.

4. The third and most comprehensive piece of research was completed in May 1991 and a copy supplied to the County Archaeologist. It had three main objectives in mind.

- (a) The compilation of base-line archaeological data from the study area, covering all periods, presented as a written record with accompanying plans. This includes cartographic, archaeological and documentary information.
- (b) The assessment of the nature, extent and importance of the archaeological resource represented.
- (c) The formulation of recommendations and options to deal with all aspects of the archaeology of the study area with an outline timetable for further work, liaison and consultation.

5. The report provides high quality archaeological data with a view to enabling:

- i. any modifications to the design, construction methods, and/or layout of the proposed development which might enhance the worthwhile preservation of archaeological deposits to be made at the earliest opportunity;
- ii. the design, planning and costing of the most appropriate archaeological response to the proposed development to be prepared in good time; and

- iii. detailed applications for planning permission to be prepared in the light of firm archaeological data.

Archaeological Summary

6. All main published and archive archaeological and historical sources were examined. Together, this work has revealed a number of areas of varying archaeological interest representing all the chronological periods.

7. Evidence for the Paleolithic period focuses on a scatter of artifacts from the mixed lithologies of semi-derived gravels which represent terrace deposits of probably Hoxnian date. Mesolithic evidence is sparse and restricted to isolated recorded stray finds. The Neolithic is represented by one probable oval barrow and a single probable mortuary enclosure.

8. Bronze Age activity includes three probable barrow groups and three sets of habitation foci interpreted from flint scatters. The Iron Age material includes pottery from a cremation cemetery and a sub-circular enclosure which has been suggested as an oppida site (a centre of late Iron Age pre-Roman urban activity).

9. The Roman period is reflected in metal-detecting finds and includes a probable minor villa site and rectilinear fragments of an aggregate field system. Anglo-Saxon finds are few but concentrated. No monuments of this date could be identified.

10. Mediaeval artifacts were sporadic and five monuments were described: a mill, fishponds, a trackway, a quarry and a warren. Components of the open field system were also recognised together with the site of a ford.

11. Finally for the post-mediaeval and early modern periods, two ancillary farm buildings, a farmstead, two quarries and a footbridge could be located. Most of the study area has been under arable cultivation and features truncated.

¹ For the purposes of this brief 'archaeology' is taken to mean the study of past human societies through their material remains, from prehistoric times to the modern era. No rigid upper date limit has been set but AD1900 is used as a general cut-off point.

Archaeological Recommendations

12. In those areas where development is proposed which is likely to affect sensitive areas, further evaluation is desirable. In the first instance this should take the form of field walking, field survey and limited geophysical sampling. Subject to the results of this work the next stage would take the form of trial trenching and pitting. This would aim to identify and date archaeological deposits and determine their degree of survival.

13. Undertaking this work may lead to one of two conclusions: either the sites are badly damaged and further excavation would add little or nothing to what evaluation itself revealed, or that there are deposits of interest and value that would be worthy of management. In the latter case four main options could be explored: preservation in-situ, total excavation, partial excavation, and watching briefs during groundworks. Given what is already known it is likely that a combination of these four options could be used.

Appendix 3 Urban Design Objectives

The purpose of this appendix is to show how each of the urban design principles will be applied to the main elements of the development. These are the district centre and the residential districts.

District Centre

The district centre should be developed in accordance with the following design principles:

Character

- The district centre provides the opportunity to create a form of mixed-use development based on a traditional high street. Building scale and landmark features should be used to reflect the importance of this area as the focus for community activities. The district centre will have a distinctly urban character.
- It is essential that residential use is located above the shops in order to maximise surveillance and liveliness. The housing should also have direct access to the public realm.
- Narrow plot widths should be used to promote more active frontages, increase the sense of enclosure and allow for higher densities.
- A public square should provide seating areas and parking areas and a more formal focus to the district centre. The space should be overlooked by buildings, but should also have tree planting to provide a degree of enclosure and shade.
- The use of local materials, building methods and details should be considered in order to enhance local distinctiveness.

Continuity and Enclosure

- Development should be arranged in a series of streets and blocks and thus create a clear distinction between public and private space.
- The majority of the buildings should be linked, creating a sense of enclosure and continuity to the main street. Blocks should have a varied building line to create informal edges to streets and squares. There should be frequent variations in the angle of buildings and the building line with alternating sections of enclosed street and incidental spaces to add interest.

- Buildings should both front the street, and the public square. These should be linked, with a minimum of blank walls and gaps between buildings thus maximising liveliness and the extent to which the street is overlooked. Within the centre, buildings such as the school, community hall, supermarket and retail units should be fully integrated into the High Street frontage and should not 'stand alone' in their own grounds.
- The primary access to buildings should be from the street and building entrances should be easily identifiable.
- Private space, including service areas should be enclosed by the backs of buildings.
- Buildings and trees should be used to enclose public space and provide a strong sense of definition.

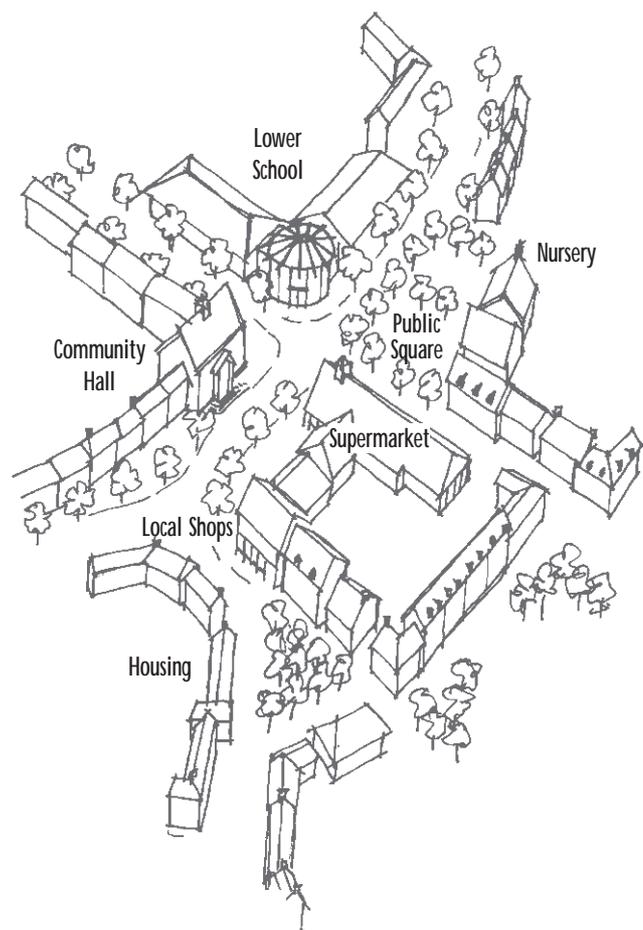


Fig E District Centre

Quality of the Public Realm

- The district centre should include a new public square that is well overlooked and is designed to support a wide range of activities. Spaces should be kept as small as possible to encourage liveliness and a sense of human scale. Parking areas should be broken up into a series of small, well-landscaped clusters rather than in one large area. In order to keep the size of the square as small as possible, parking should also be provided within the centre of the street blocks.
- Building entrances should be at frequent intervals so as to create activity.
- The fronts of buildings should be orientated around the main pedestrian flows to enhance security and vitality.
- Works of art and well-designed street furniture should be used to create identity and enhance the sense of place. Extensive seating opportunities should be incorporated into the design. Bins should also be provided.
- Street furniture should be co-ordinated in order to avoid clutter. Maintenance, resistance to vandalism and access to underground services should also be considered.
- Account should be taken of microclimate including sunlight and daylight, wind, temperature and frost pockets.

Ease of Movement

- The district centre should be a major intersection for footpath, cycle and public transport networks.
- Higher residential densities should be located around the district centre so as to support greater public transport use.

Legibility

- Legibility should be enhanced by grouping larger scale community buildings (eg. school and community centre) and using them to define public spaces; through the use of landmarks, artworks, planting, seating areas, or architectural features such as clocktowers; through careful orientation of buildings in terms of views and vistas and through the detailing of buildings, street furniture and hard landscape materials.

Adaptability

- Consideration should be given to floor to ceiling heights and building depths. These influence how

easy it is to convert a building to other uses. It should be recognised that the composition of the centre is likely to change over time and this should be facilitated in building design. The use of three storey townhouses provides the potential for the ground floor to be converted to other uses over time.

Diversity

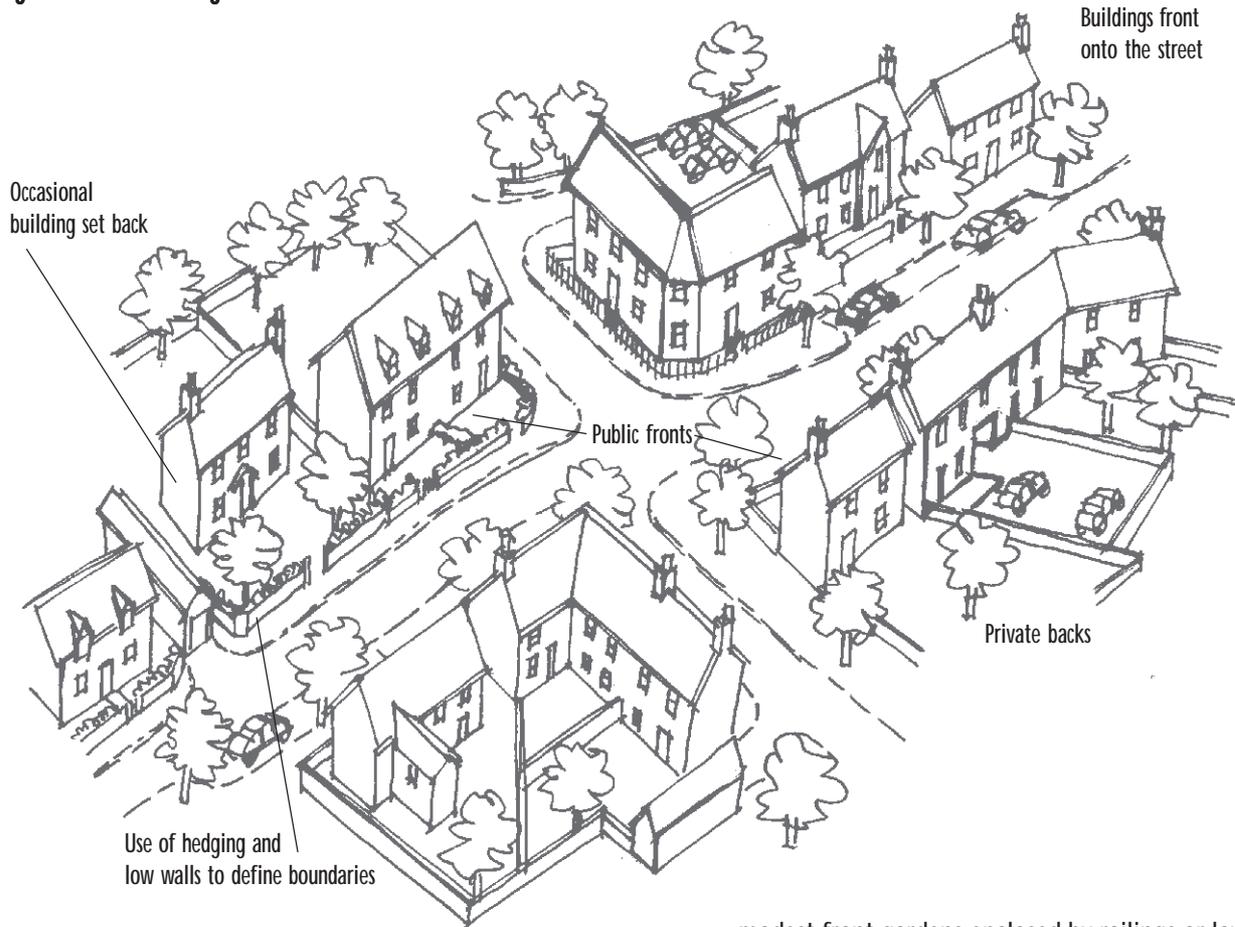
- For the centre to be successful, it must accommodate a range of different community, commercial and residential units. This will support a wide range of activities during the day and the evening. Residential or office uses will be expected to exist above active shop or workshop frontages.

Residential Districts

Character

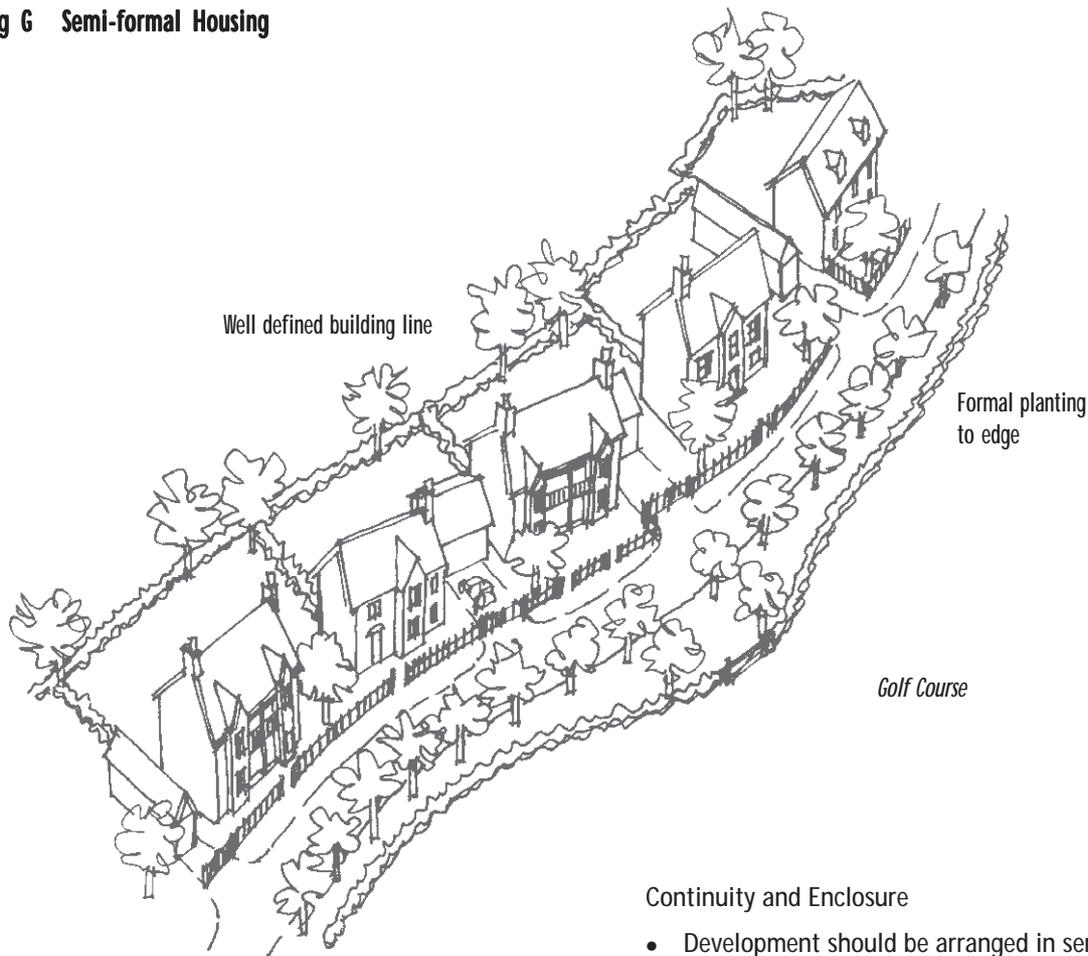
- A variety of dwelling types, sizes and styles should be provided to ensure that the varied needs of the community are met and also that visual diversity is achieved.
- The character of the residential districts should reflect the character of existing housing areas within Bedford, Kempston and Biddenham. It should reflect local building forms including distinct housing types, spatial relationships, boundary treatments, building lines, roof slopes, window types and gardens. These are set out in paragraphs 6.10 - 6.16.
- Three distinct character areas have been identified. These are the urban character area which encompasses the primary routes through the site, the semi-formal edge with the golf course and the semi-rural character on the western and south-western edges.
- *The urban character area.*
Here it is appropriate to introduce some of the more urban elements found in the traditional street and blend them with some of the semi-rural characteristics of the lower density areas. This will aid legibility through the site and make it distinct from the other character areas. New development will be expected to:
 - have a density of about 35 dwellings per hectare
 - range from 1½ to 2 and 2½ storeys high
 - be grouped into short terraces, creating a near continuous built frontage
 - have the occasional building set back and at right angles to the road to create visual interest.

Fig F Urban Housing



- restrict soft landscaping elements to trees lining the street and in curtilage planting
- restrict size of front gardens with the occasional building located at the back edge of the footway
- create a clear distinction between public and private realm
- define boundaries by means of low stone walls, hedges and the occasional section of railings
- display a range of materials, including stone, brick, render, plain tile and pantile. (see Fig F)
- *The semi-formal character area.*
This will be expected to have the following characteristics:
 - density of about 30 dwellings per hectare
 - semi detached and detached buildings
 - 2 -2½ storeys high
 - a well defined building line
 - consistency in building type, materials and architectural style
- modest front gardens enclosed by railings or low walls
- more formal planting at the interface with the golf course. (see Fig G)
- *The semi-rural character area.*
New development will be expected to:
 - have a density of about 30 dwellings per hectare
 - display an informal pattern of development to reflect and reinforce the strong rural character
 - display a variety of building forms
 - consist mainly of a collection of individual buildings with the occasional short terrace
 - range from 1 to 2 storeys in height
 - have individual and clusters of dwellings in a landscape dominated environment set back from the road
 - have an 'organic' relationship to adjacent buildings - this could involve setbacks, changes in frontage angle and variation in width between buildings
 - create small informal areas of semi-public and public open space

Fig 6 Semi-formal Housing

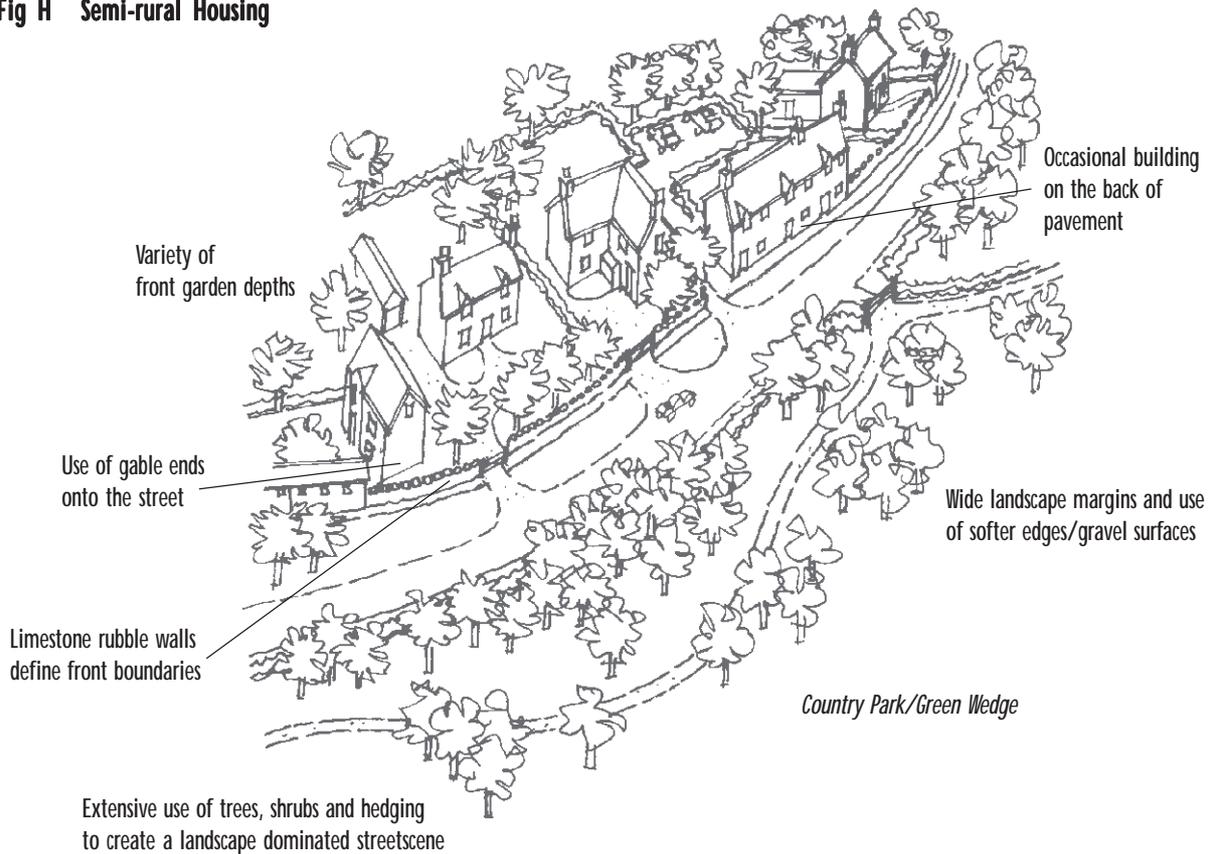


- have variety of front garden size and length
- provide space for structural planting in public spaces in the form of wide verges and greens, including stands of specimen trees. Use extensive informal planting on the fringe of the development to provide a soft edge to the country park.
- define boundaries by low stone walls, hedges or picket fences. Use soft verges with drives and footways in loose or rolled gravel.
- use a range of materials, including thatch, stone, render, brick, plain tile and pantile. (see Fig H)
- Particular care will be needed to ensure a gradual transition between these character areas. This should be addressed in detailed design codes.
- Traffic calming throughout the site must ensure that safe, pleasant residential areas are created.
- Recognise that every element in the street scene contributes to the identity of a place including sculpture, lighting, railings, litter bins, paving and street furniture. These should be considered as an integral part of the design process.

Continuity and Enclosure

- Development should be arranged in series of streets and perimeter blocks and thus create a clear distinction between public and private space.
- Buildings should front onto the street and public space including the golf course and the country park to enhance liveliness and community safety. This can be achieved by the use of separate slip roads where access is restricted eg. where development fronts onto a main road or onto open space.
- Private space should be enclosed by the backs of buildings. Rear gardens should back onto other gardens rather than roads, footpaths or service areas. This will make them more secure.
- The primary access to buildings should be from the street.
- Where courtyard development is used, access to parking courtyards should be controlled by means of gates or by overlooking. This may necessitate locating dwellings within the courtyard itself.
- A limited palette of building materials, styles and detailing should be used to provide continuity to any one residential district.
- Within houses, position the less private rooms (such as the living room) so as to face the street, especially at ground floor level.

Fig H Semi-rural Housing



Quality of the Public Realm

- Streets and spaces should be overlooked so as to maximise natural surveillance. This is particularly important in the case of play areas, communal space and parking areas.
- Public space within residential areas should include, footpath and cycleway corridors as well as larger green open spaces. Equipped areas of play should be accommodated within the larger open spaces, together with informal recreation facilities. There should be extensive seating opportunities and seating must be provided adjacent to the equipped play areas.
- Works of art and well designed, high quality, durable street furniture and surfacing materials should be provided to create identity and enhance the sense of place. This should be co-ordinated in order to avoid clutter. Maintenance, resistance to vandalism and access to underground services should also be considered.

Ease of Movement

- The layout of housing areas should maximise accessibility to public transport. In general, vehicles,

pedestrians and cyclists should share the same movement corridor rather than be geographically segregated.

- All dwellings should be within 400m of a bus stop.
- Movement routes should be overlooked by residential properties or community buildings and should be lit as necessary so that they are safe and secure.

Legibility

- Use prominent buildings to enhance legibility. Consider how detailing of boundary treatments, surfaces, building materials, windows, and doors etc, can be used to make the areas more legible.

Adaptability

- House types that allow homeworking and life-time occupation should be provided.
- Consideration should be given to floor to ceiling heights and building depths. These influence how easy it is to convert a building to other uses.
- Public spaces should be designed to support a range of different uses and activities.

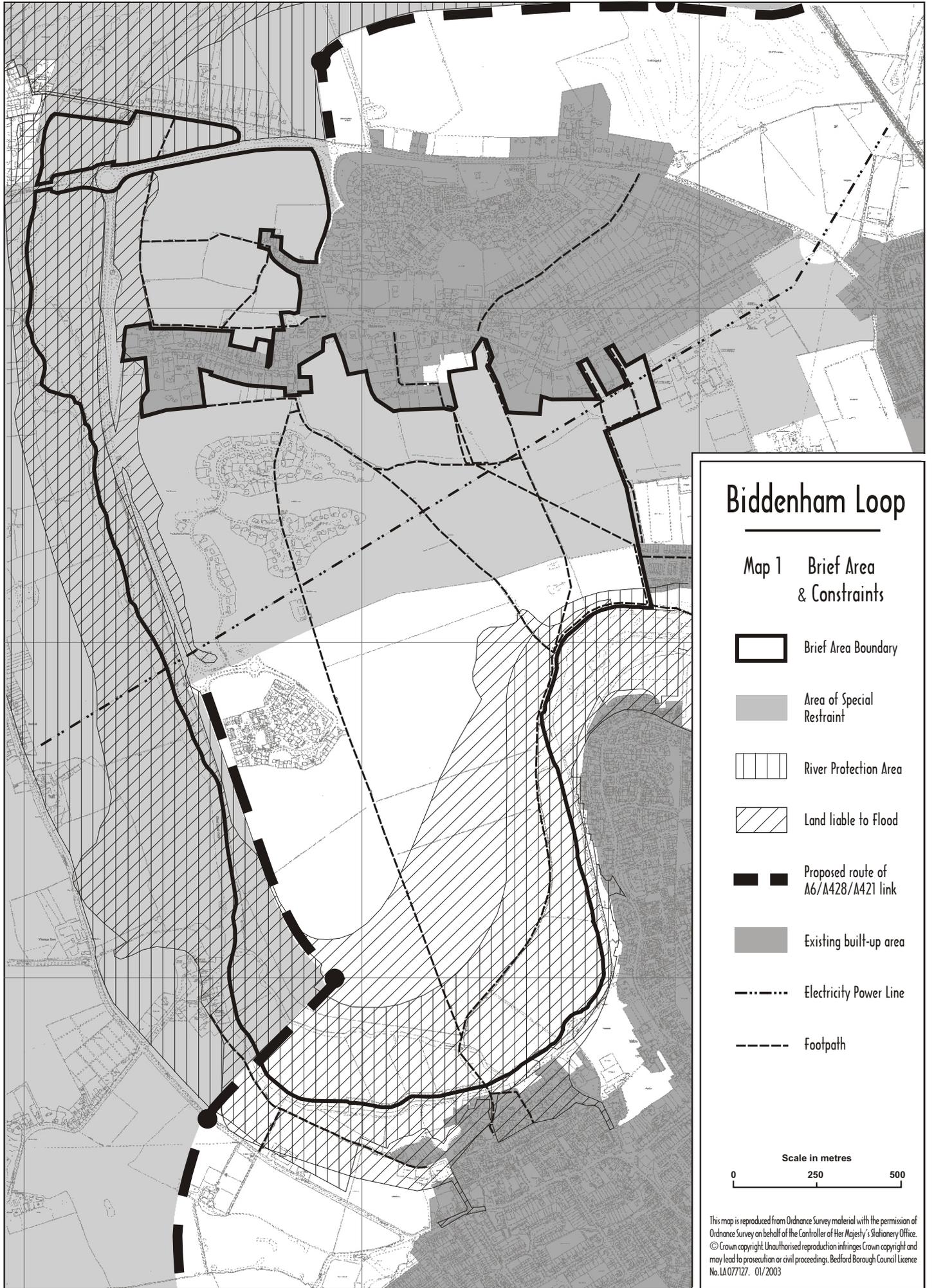
Diversity

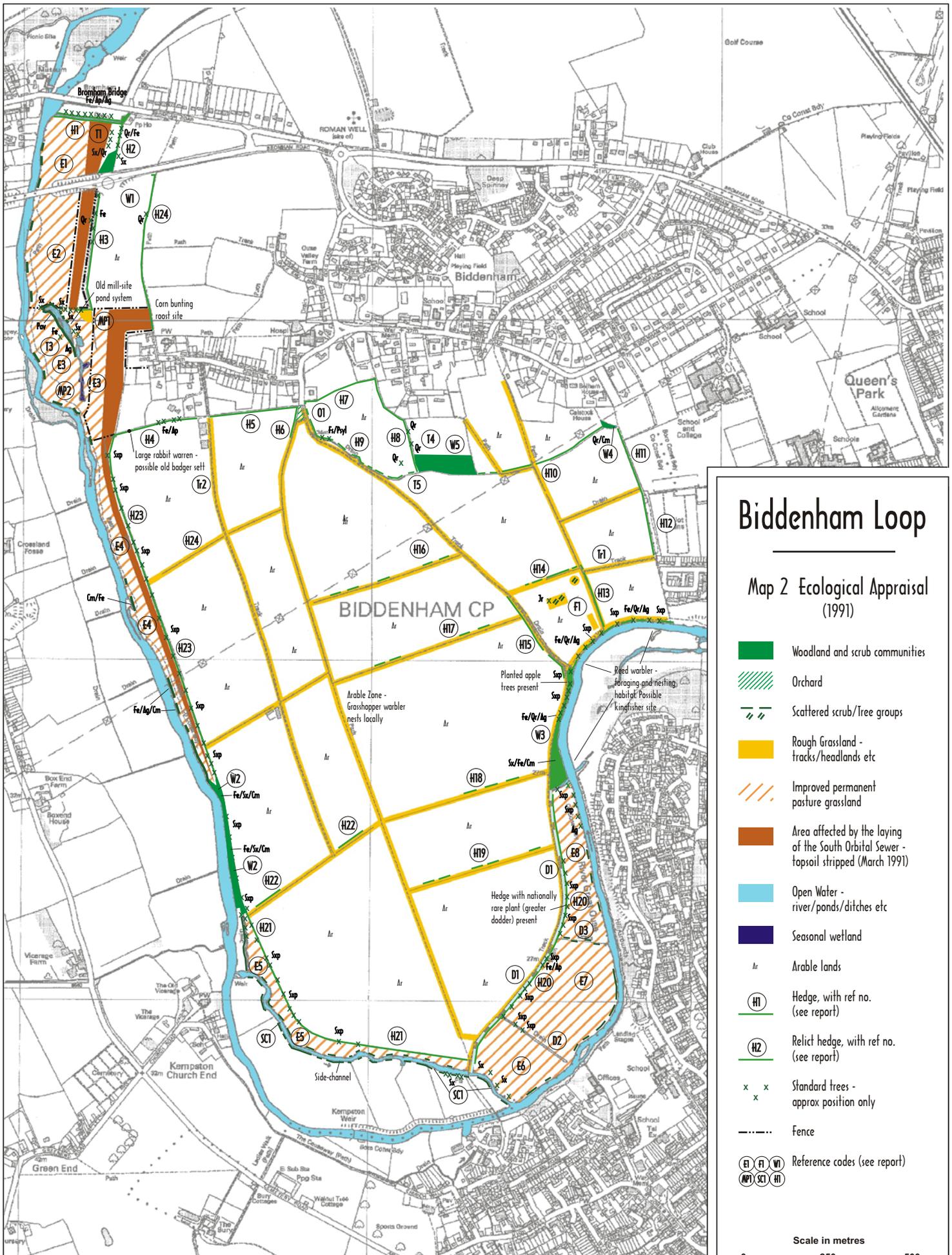
- To promote social inclusion, social housing should be fully integrated into the development.

Appendix 4 Local Plan Policies

The following Bedford Borough Local Plan Policies relate to the area covered by this Brief.

POLICY		POLICY	
Strategy			
Policy S3	Urban area boundary	Policy BE42	Lighting
Policy S8	Supplementary guidance	Policy BE43	Public spaces
Policy S9	Community and other facilities	Policy BE44	Public art
		Policy BE45	Community safety
		Policy BE48	Accessible environments
		Policy BE49	Accessible environments
Natural Environment		Housing	
Policy NE1	Sites of special scientific interest	Policy H31	The provision of affordable housing
Policy NE2	Environmental losses	Policy H32	Housing type and sizes
Policy NE3	County wildlife sites	Policy H34	Mobility Housing
Policy NE4	Trees and hedges		
Policy NE8	Natural history	Employment	
Policy NE12	Retention of landscape features	Policy E14	Working from home
Policy NE13	Safeguarding and future management of landscape features		
Policy NE15	River Protection Area	Shopping	
Policy NE16	Flooding	Policy SH7	New local shopping facilities
Policy NE17	Urban open space		
Policy NE20	Landscape and environmental improvement	Transport	
Policy NE24	Protection and enhancement of water resources	Policy T1	Strategic road network
		Policy T4	Highway impact
		Policy T6	Public transport infrastructure
		Policy T7	Developer contributions
		Policy T13	Pedestrian routes
		Policy T14	Cycle routes
		Policy T15	Parking
		Policy T17	Park and ride facilities
		Policy T20	Safety and traffic calming
		Policy T21	Accessibility for the disabled
Built Environment		Leisure & Recreation	
Policy BE3	Self-sustaining communities	Policy LR7	Use of river Great Ouse
Policy BE5	Area of Special Restraint	Policy LR9	Moorings
Policy BE8	Energy efficient layouts	Policy LR10	Access to countryside
Policy BE11	Setting of conservation areas	Policy LR15	Outdoor playing space for sport
Policy BE23	Archaeology	Policy LR16	Children's play space
Policy BE24	Archaeology	Policy LR17	Amenity open space
Policy BE25	Archaeology	Policy LR19	Community facilities
Policy BE29	High standard of design		
Policy BE30	Material considerations	Utilities	
Policy BE31	Statement of design principles	Policy U2	Floodplain
Policy BE32	Development on the edge of urban areas	Policy U3	Waste water
Policy BE34	Development adjoining main road and rail routes		
Policy BE35	Achieving quality in residential layouts		
Policy BE38	Landscaping		
Policy BE39	Landscaping		
Policy BE40	Landscaping		



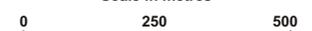


Biddenham Loop

Map 2 Ecological Appraisal (1991)

- Woodland and scrub communities
- Orchard
- Scattered scrub/Tree groups
- Rough Grassland - tracks/headlands etc
- Improved permanent pasture grassland
- Area affected by the laying of the South Orbital Sewer - topsoil stripped (March 1991)
- Open Water - river/ponds/ditches etc
- Seasonal wetland
- Arable lands
- H1 Hedge, with ref no. (see report)
- H2 Relict hedge, with ref no. (see report)
- x x Standard trees - approx position only
- Fence
- E1 F1 W1
MP1 SC1 H1 Reference codes (see report)

Scale in metres



SPECIES

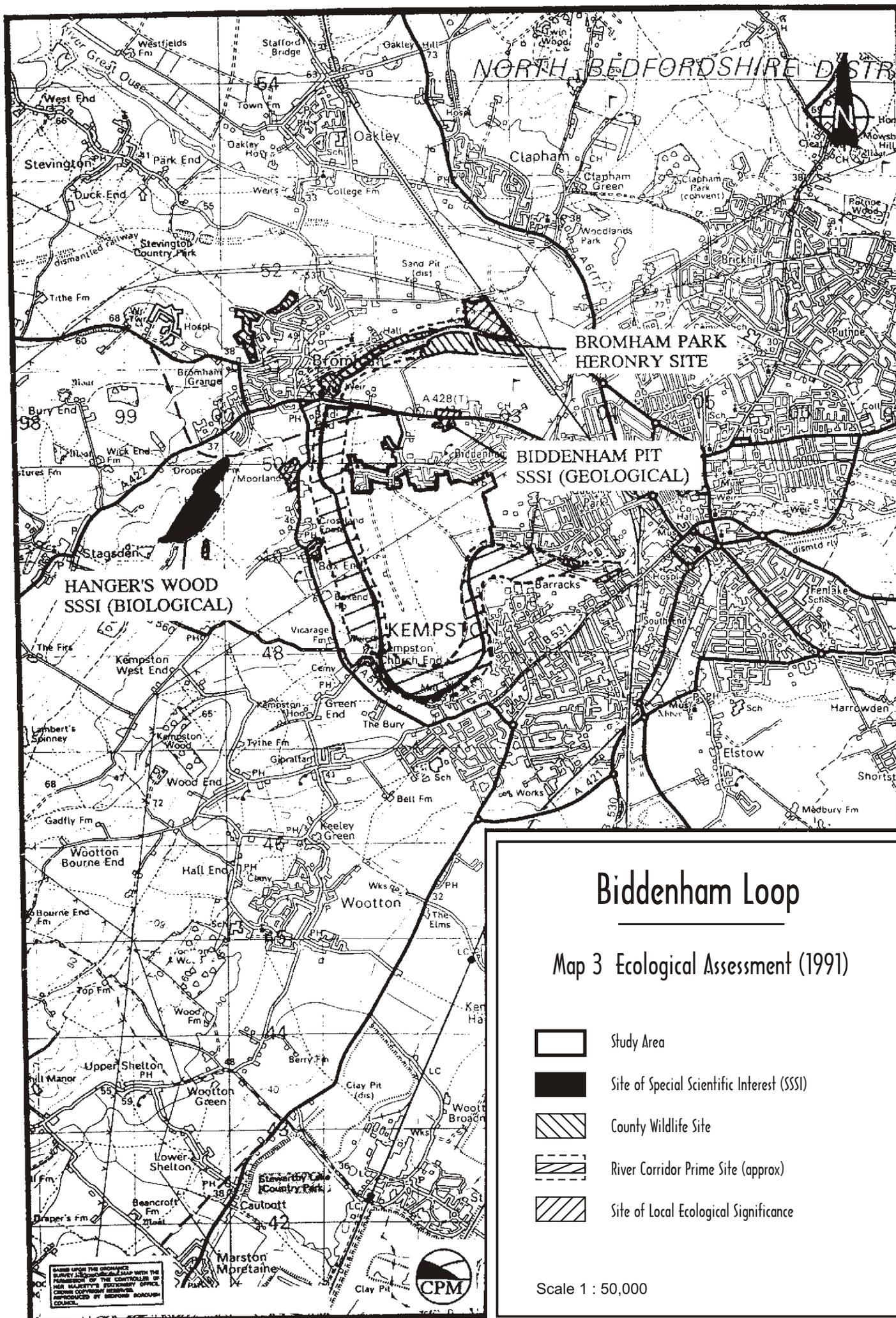
Sx Willow (Salix)
Swp Willow pollard

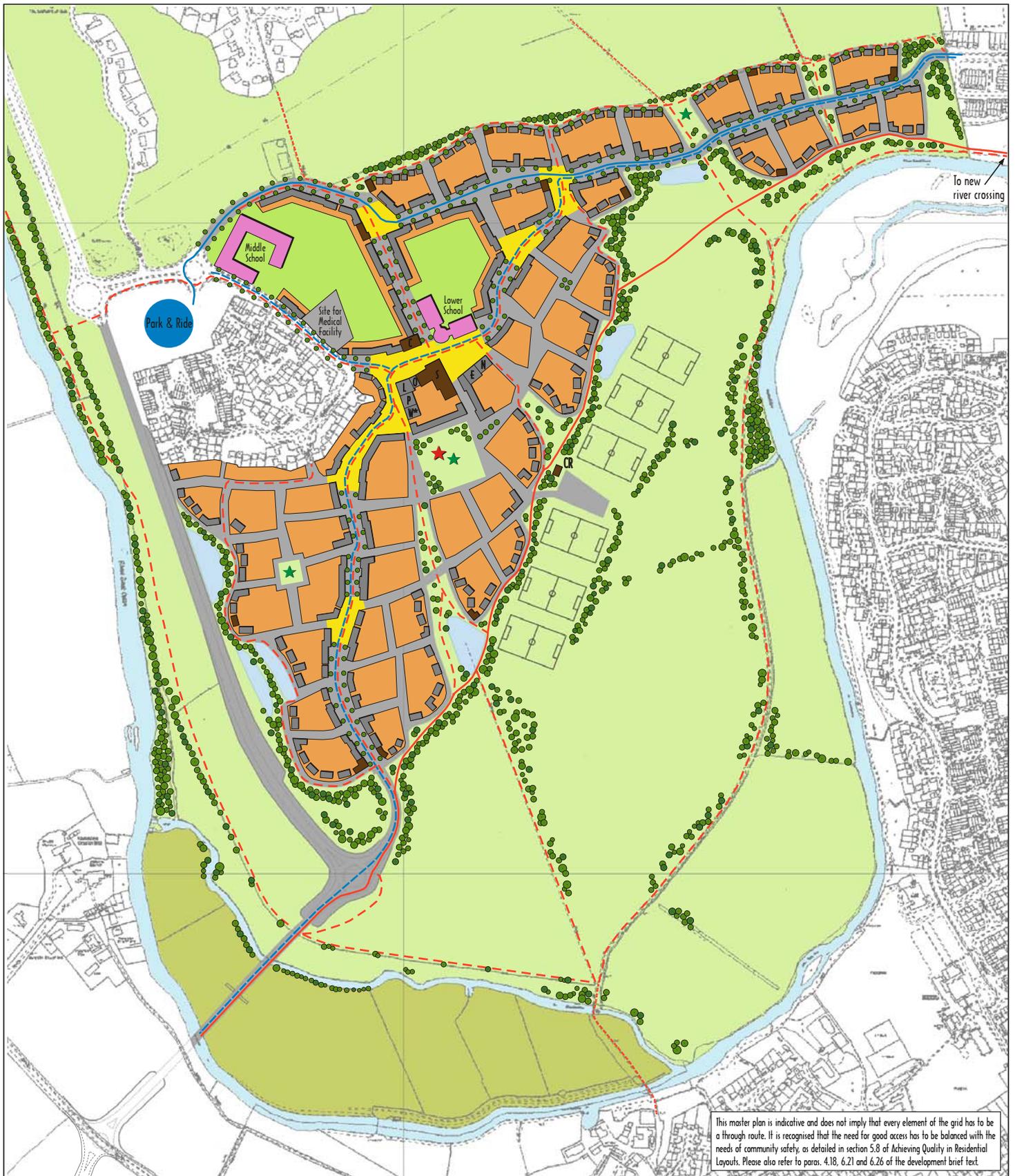
Fe Ash (*Fraxinus excelsior*)
Ag Alder (*Alnus glutinosa*)
Qr Oak (*Quercus robur*)

Ap Sycamore (*Acer pseudoplatanus*)
Cm Hawthorn (*Crataegus monogyna*)
Pav Cherry (*Prunus avium*)

Psyl Scots Pine (*Pinus sylvestris*)
Jr Walnut (*Juglans regia*)

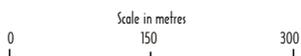
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Biddenham Loop

Map 4 Illustrative Master Plan



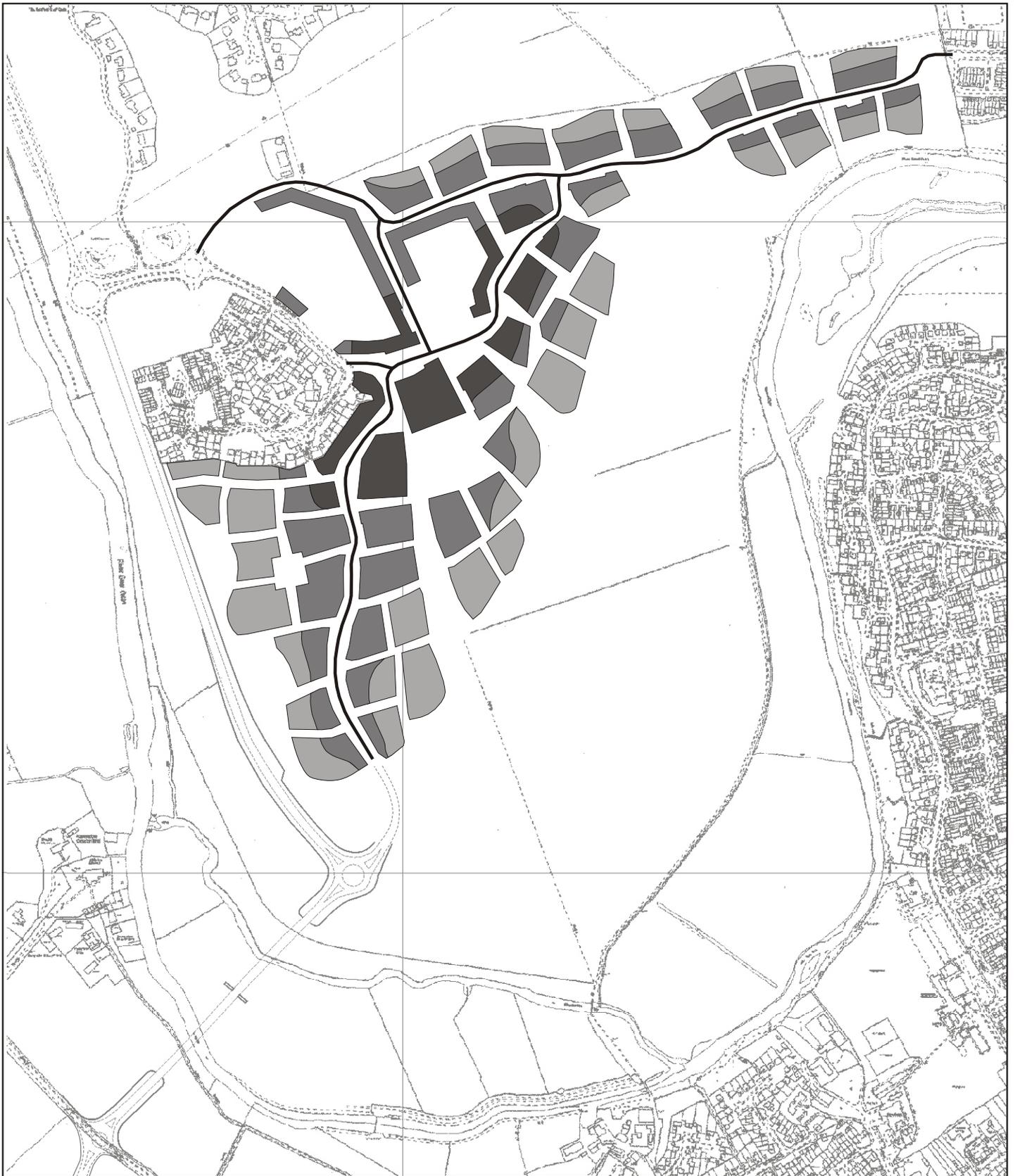
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- Road
- Squares
- Park & Ride / Bus Route
- Other Bus Route
- National Cycle Network route 51/footpath
- Cycleway / Footpath
- Footpath
- Open Space

- Agriculture
- Playing Fields
- NEAP - Neighbourhood Equipped Area for Play
- LEAP - Local Equipped Area for Play
- Trees and Hedges (existing and proposed)
- Housing
- Landmark Buildings
- Key Frontages
- Balancing Pond

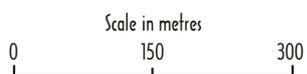
Community Uses:

- N Nursery
- S Supermarket
- L Local Shops
- O Offices
- E Ecumenical Centre
- C Community Hall
- P Public House
- W* Workshops (inc recycling facility)
- CR Changing Rooms



Biddenham Loop

Map 5 Housing Density



-  High Density Housing
-  Medium Density Housing
-  Low Density Housing